

# **The Hebrew chronology from Noah to Moses, corrected for half-years and synchronized to Mesopotamian and Egyptian history**

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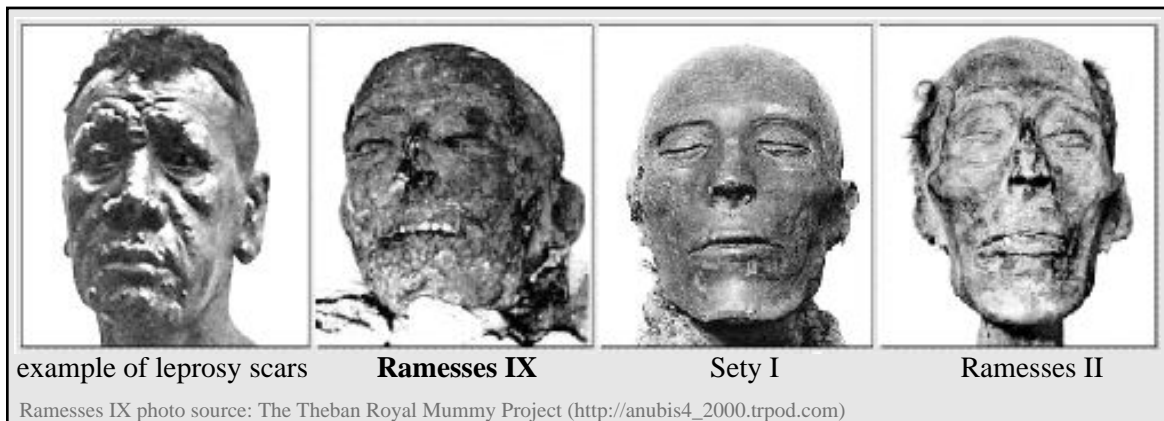
## **ABSTRACT**

In this fully secular analysis, the chronology of the Hebrew patriarchs is for the first time coherently synchronized to external history, matching at multiple points across centuries. This is achieved via recognition that the Hebrew time unit throughout much of the 2nd millennium BC was a half-year, (summer = 1, winter = 2, summer = 3, etc.). The net effect of this correction is a timeline consistent with normal human lifetimes, and much more compressed than the traditional Ussher chronology. Noah's flood is presumed to be historical but limited to Mesopotamia, and is matched to a widespread tree ring anomaly in 1647 BC. This year of exceptionally wet weather can be traced via radiocarbon and ice core records to a Bronze Age eruption of Vesuvius. Three centuries later, Assyrian dominion over Asia during the lifetime of Abraham, (*Antiquities 1.9.1*) matches the rise of the Assyrian Middle Empire. Three generations later, Joseph, an Asiatic who ruled Egypt (Genesis 45:8) matches the late 19th dynasty chancellor Bay, regent to the child pharaoh Siptah. The oppression of the Israelites following Joseph's death (Exodus 1:8) matches a political transition to the 20th dynasty in Egypt. In Manetho's Exodus account (*Against Apion 1:26-28*), king Amenophis, rival to Moses, matches late 20th dynasty High Priest of Amun Amenhotep. References to Philistine control of the road to Canaan (Exodus 13:17) and to the construction of Zoan in Egypt (Numbers 13:22) both place the Exodus in the late 20th dynasty and are proven chronologically accurate.

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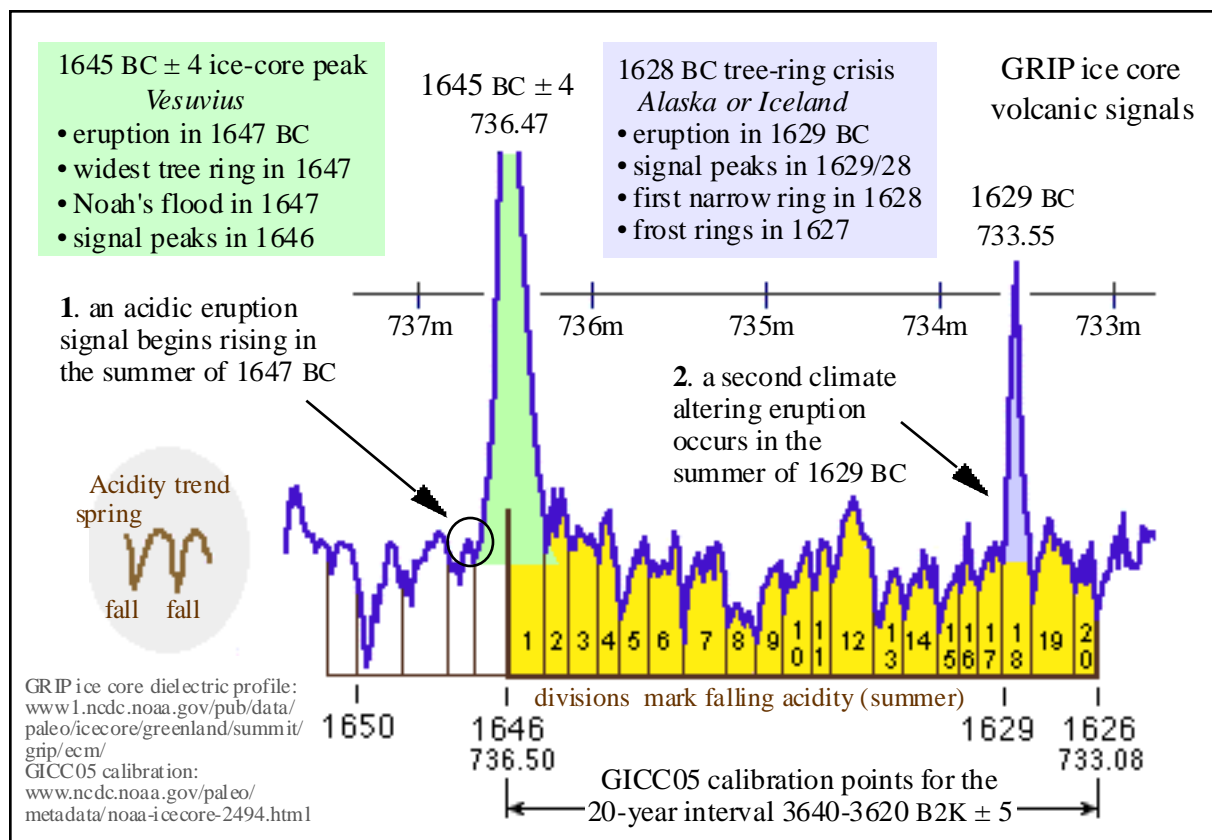
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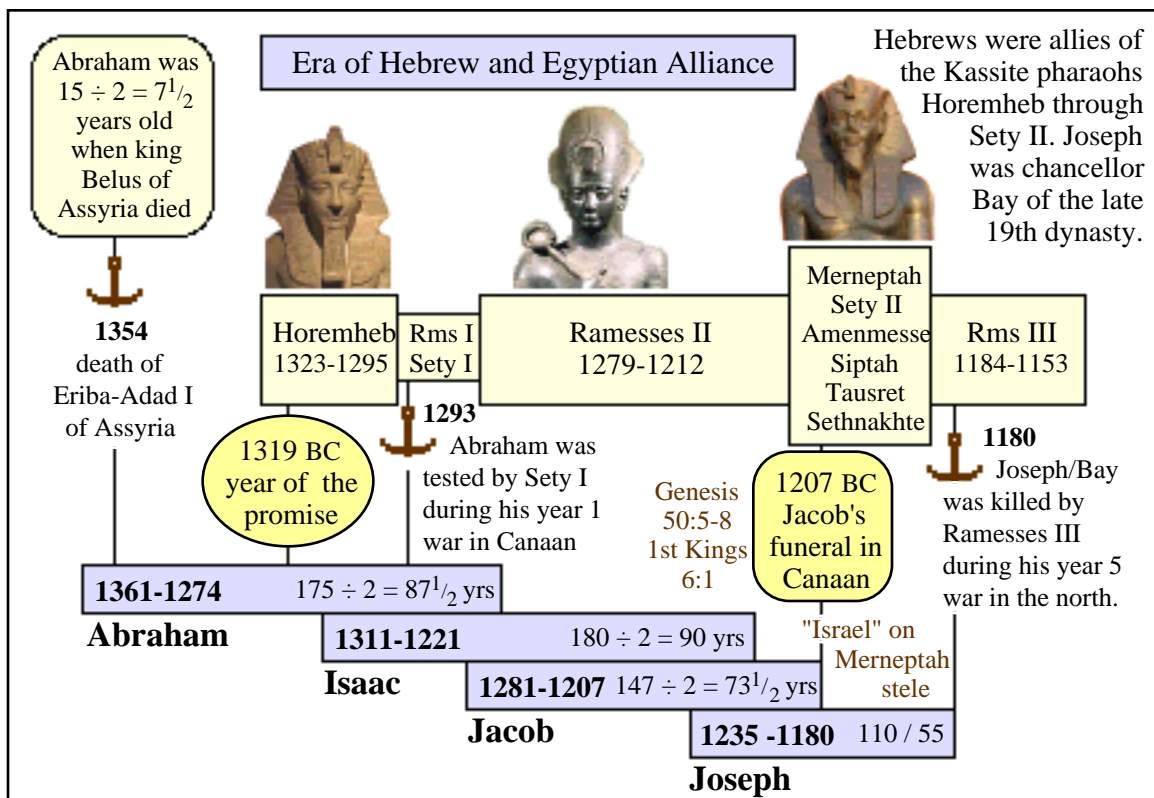


Artapanus reports that the pharaoh who died while Moses was in Midian was afflicted with elephantiasis.<sup>[A]</sup> The Book of Jasher reports that the same pharaoh had leprosy from head to foot, and that his capitol city was Zoan.<sup>[B]</sup> The mention of Zoan as a capitol places Moses and the Exodus in the late 20th Dynasty. This is confirmed by direct physical evidence: the mummy of Ramesses IX is scarred by leprosy (and not earlier pharaohs Sety I and Ramesses II). A late 20th Dynasty Exodus does not contradict the archaeological record. Culturally Israelite settlements first appeared in the Canaanite highlands during the lives of Abraham, Isaac, and Jacob (also named Israel). The Exodus was the later return to Canaan (post oppression) of the Hebrew ruling class – direct descendants of Jacob, who then lorded over the existing commoner settlements.

[A] Praeparatio Evangelica 9.27.19; [B] Jasher 76:25, 76:59 <http://www.sacred-texts.com/chr/apo/jasher/>



GRIP ice core record of two 17th century BC eruptions. The eruption in 1647 BC triggered the weather anomaly that is the historical basis for the legend of Noah's flood.



Abraham through Joseph and the pharaohs of Egypt (note ages  $\div$  2). Three of eight anchors discussed in this work are shown in the figure. The earliest anchor is Noah's flood in 1647 BC.

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# 1

## Overview of the proposed Hebrew chronology

The Old Testament chronology has attracted the attention of scholars for centuries, but as late as 1975, it is reported in *The Cambridge Ancient History* that the period in which the Hebrew patriarchs lived simply cannot be determined:

The nature of the evidence, with its emphasis on the future of Israel rather than on personal details concerning the patriarchs, does not allow us to draw conclusions about the history of the individuals, or about the period in which they lived.

*The Cambridge Ancient History*, vol. II-2, (1975), p. 314.

New scientific information has come to light since 1975. Nevertheless, the above statement may be true of the evidence in the Old Testament itself, but other ancient records have long provided very specific details about the individual Hebrew patriarchs and the period in which they lived. For example, citing records from the library of Maraghah, the 13th century bishop and scholar Gregory Bar Hebraeus reported that Abraham's son Isaac lived in the days of the 15th king of Egypt, named Setis, and that Joseph was made ruler of Egypt three pharaohs later. Setis matches Sety I, the 15th New Kingdom pharaoh (excluding the usurper queen Hatshepsut). Three pharaohs later, Sety II elevated the Asiatic chancellor Bay to the stature of a king, building a tomb for Bay in the valley of kings next to his own.<sup>1</sup> With that record from Bar Hebraeus' *Chronography*, identification of chancellor Bay as the historical Joseph is trivial.

The records of Bar Hebraeus will be discussed in chapter 5. But in the Bible, no chronological basis has been found for placing Joseph contemporary to Sety II. A major stumbling block seems to be that scholars of ancient history have not recognized that the Hebrew time unit was a half-year. The central hypothesis of this work is the presumption that Moses died at age 60 summers + 60 winters = 120 *Hebrew time units*, not 120 years. Certainly many have recognized that ages in excess of a century should be questioned, yet no comprehensive analysis of the Hebrew chronology corrected for half-years has previously been put forth. That comprehensive chronology survives largely intact and inexplicably overlooked in another readily available ancient text, the Book of Jubilees (Lesser Genesis).

Evidence of the half-year as a time unit used somewhere in the vicinity of Abraham's native city of Ur was anticipated, since in addition to Moses, the lifetimes of Abraham through Joseph also make biological sense if the time unit translated as 'year' was actually a half-year. In a companion paper to this work, the half-year is shown to be a time unit used on Babylonian King List A to record the reigns of kings of the 1st Sealand dynasty (1717-1533 BC) and the Kassite dynasty (1533-1155 BC).<sup>2</sup> In this work it will be shown that Abraham immigrated to Canaan in the mid-14th century BC from what was then Kassite-ruled Babylonia. Thus one can infer that Kassites are the cultural origin of the half-year time unit, and that Abraham and the Hebrews were ethnic Kassites.

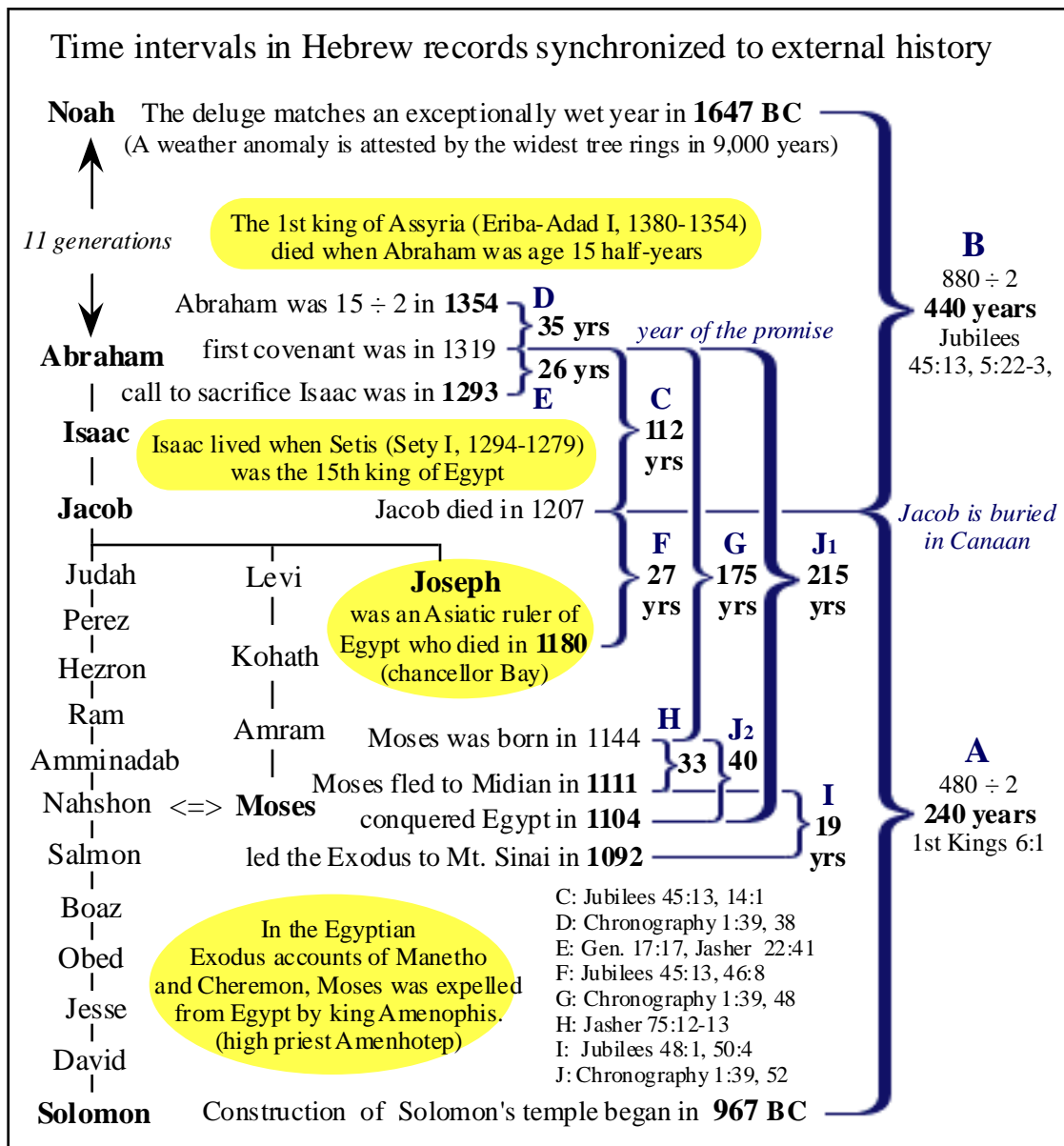


Figure 1: Overview of time intervals in Hebrew records synchronized to external history. Intervals between events, A-J, are recorded in half-years in the sources indicated. Dates in bold are alignments to the historical/scientific record at points for which the BC year is a known or probable exact match.

Prior to Abraham, the ages recorded in Genesis 11 do not make sense in any time unit, but the Book of Jubilees, which escaped the corruption found in Genesis 11, will be shown to extend the half-year chronology back to Noah. Use of the half-year time unit was eventually discontinued. Based on ages at death, the Hebrews recorded time in half-years at least through Moses and Joshua, who are reported to have died respectively at age  $120 \div 2 = 60$  years (Deut. 34:7), and  $110 \div 2 = 55$  years (Josh. 24:29). A change is apparent in the recorded lifetime of king David, who reigned until he was “*old and well advanced in years*” (1 Kgs. 1:1), yet he died at age 70 (2 Sam. 5:4). Thus a transition to measuring time in whole years had occurred by the reign of David. However, during the much later reign of king Joash, the Levite chief priest Jehoiada died at age  $130 \div 2 = 65$  years (2 Chr. 24:15). This can be explained if the half-year time unit was retained as a religious tradition, even after civil records were recorded in years.

This work does not propose any significant revision of conventional history. Only the Hebrews’ place within the well established ancient Near East chronology was lacking, and that is what is now proposed. The patriarchs are presumed to be historical, a ruling class family who ultimately became priests and kings at Jerusalem. However, since there was no separation of church and state, it is also presumed that Hebrew priests composed scripture to aid in ruling the commoners, not to preserve a wholly accurate record of the past. Therefore, the biblical biographies of the patriarchs may contain both religious and political propaganda. The intent of this work is to tease out the underlying history. The half-year hypothesis is the key. When the Hebrew time unit is properly translated as a half-year, Hebrew chronology unfolds with multiple precise synchronizations to known external history, as illustrated in figure 1.

The time intervals in figure 1 are gleaned from multiple Hebrew texts, including the Old Testament and three variants of the Old Testament’s early narrative: the Book of Jubilees, Targum of Palestine and Venice Book of Jasher. These Hebrew records are supplemented by the works of early historians, as compiled and preserved by Josephus, Eusebius and Bar Hebraeus. No source is presumed above error, nor *a priori* more credible than another. Contradictory records are resolved in favor of those that can be coherently matched to known history. For example, 480 half-years as recorded in 1st Kings 6:1 of the Masoretic text version of the Old Testament connects the most probable year of the founding of Solomon’s temple to a broader chronological framework; 440 half-years as recorded in 1st Kings 6:1 of the Septuagint version does not. In that case, the Masoretic text is presumed correct. No further justification of why the Masoretic text should be trusted is necessary.

A special case of resolving a contradictory record involves the 430 half-year interval referenced in Exodus 12:40, “*Now the length of time the Israelite people lived in Egypt was 430 years.*” The number 430 is recorded in multiple sources, but the sources do not agree on the starting point from which the interval is counted. The starting point that coherently connects to the broader chronological framework is that of Galatians 3:16 “*promises were spoken to Abraham*”, which refers to the first covenant of Genesis 15:18, not to the arrival of the Israelites in Egypt (Ex. 12:40, Masoretic text) or to the arrival of Israelites (Abraham?) in Canaan (Ex 12:40, Septuagint).

Following this introductory overview, evidence will be presented case by case that the dates in bold on figure 1 (1647, 1354, 1293, 1180, 1111, 1104, 1092, and 967 BC) are points of synchronization between the Hebrew chronology and events of a known year in the historical and/or scientific record. Briefly, at the top of the figure, 1647 BC matches Noah’s flood to tree ring evidence of an exceptionally wet year following the Avellino eruption of Vesuvius. Moving down the figure, 1354 BC is the death of Assyria’s 1st king

while Abraham was still a child in Babylonia. Though Hebraeus and Eusebius call this king Belus, as a king who won Assyrian independence, Belus is a historical match to Eriba-Adad I. 1293 BC is the first Asiatic war of pharaoh Sety I, which matches and explains the call for Abraham to sacrifice Isaac. 1180 BC is the date of a northern war in year 5 of Ramesses III. This war matches and explains the death of Joseph, as Ramesses III consolidated his rule over all of Egypt. 1111 BC is the year of a war in Phoenicia that Bar Hebraeus reports among notable events at the time that Moses fled to Midian. 1104 BC is the 3rd and final year of Ramesses X. The fall of Ramesses X matches the beginning of a twelve-year subjugation of Egypt by Moses, as reported by the Egyptian historian Manetho. Twelve years later, 1092 BC is the date of the historical Exodus. In this case a pillar of cloud and pillar of fire in Exodus 13:21 match a volcanic eruption recorded at depth 644.39 meters in the GRIP ice core. Moses thought the plume rising from the volcano was a supernatural beacon, but by describing the eruption as an apparition of the Lord, the exact year of the Exodus was recorded. At the bottom of the figure, 967 BC is the founding of Solomon's temple as derived from the records of Roman era historians. If that date is taken as the starting point, the rest of the figure is built upward by linking the interconnected time intervals labeled A through J<sub>1</sub> and J<sub>2</sub>. In all cases, the BC date is found first, and then the synchronization to history is deduced. The strength of the resultant chronology is that it is coherently interconnected. Any of the eight dates in bold could be the starting point. Finding fault in one of the eight exact synchronizations leaves the chronology firmly attached at seven additional anchor points. This is not a 'blind tally' chronology like Ussher, or a revision of conventional history to fit an otherwise enigmatic Exodus date. The biographies of the Hebrew patriarchs align to known Mesopotamian and Egyptian history, just as it is. That hadn't been understood.

As the dates and synchronizations come to light, one must also interpret the findings. My interpretation is that Noah's flood was catastrophic, but limited to the Mesopotamian watershed, and coincides with a tree ring anomaly that fixes the exact year, 1647 BC. Three centuries later, Abraham's journey to Canaan can be explained as a defection to Egypt following the subjugation of his homeland, Kassite Babylonia, by Assyrian king Ashur-uballit I (1353-1318). In Canaan, Abraham's Kassite troops defended the Egyptian territorial frontier against Assyrian aggression. Abraham's role as a military commander is apparent in his successful defeat of the army of king Kedorlaomer (Gen. 14:14), but otherwise, his true occupation and especially his service to the pharaoh are largely disguised. It can be presumed that Isaac, Jacob and Jacob's twelve sons served Egypt's 19th dynasty pharaohs in a similar manner.

Jacob's son Joseph is a match to the Asiatic chancellor Bay of the late 19th Egyptian dynasty. Joseph's death in 1180 BC falls within the reign of the early 20th dynasty pharaoh Ramesses III (1184-1153). The death of Joseph/Bay matches a year 5 victory by Ramesses III in a northern war that likely brought the 19th dynasty to an end. Having been defeated by Ramesses III, the Israelite ruling class (Hebrews) were then oppressed in Egypt during much of the 20th dynasty, while cultural Israelites (commoners) already resided in Canaan. It is important to note that archaeologically, the emergence of Israelite culture in the Canaanite highlands was during the late 19th dynasty, that is, during the lifetimes of Jacob/Israel and his sons. This archaeological record is not interrupted by the oppression of the Israelites in Egypt. Thus the Israelites in Egypt must have been the ruling class descendants of Jacob and their soldiers, not the commoners of Canaan.

Moses fled to Midian during the reign of Ramesses IX (1125-1107). After Ramesses IX died (Ex. 2:23), Moses returned to Egypt and then confronted pharaoh Ramesses X (Ex. 7:7), but certainly he did not ask that the Israelites be freed to journey to Canaan. In



Manetho's contrary account of the Exodus, Moses conquered and ruled Egypt for twelve years, until king Amenophis returned from exile and expelled Moses and his followers. This subjugation of Egypt is known to Egyptologists as the "Repeating of Births," during the reign of Ramesses XI (1104-1075). In the context of a Hebrew conquest, Repeating of Births could be interpreted as a restoration of the Hebrew-friendly 19th dynasty era. The pharaoh was likely a mere puppet. Papyrus documents from the late 20th dynasty record that Ramesses XI's vizier, Nebmarenakht, had been ousted during the reign of Ramesses IX, but now regained his old job. Nebmarenakht is a match to Moses. King Amenophis, who ultimately defeated Moses, was not a pharaoh. He is a match to the late 20th dynasty high priest of Amun Amenhotep.

After the Exodus, Hebrews established military and political control of Canaan during the 21st Egyptian dynasty. Thus Joshua's conquest of Canaan was not the arrival of Israelites in the archaeological record. Joshua's victories were a reconquest, claiming lands already inhabited by cultural Israelites, but governed by non-Hebrew rulers during the oppression. Less than a century elapsed from the Exodus in 1092 BC to the kingdom of David in c.1010 BC.

The details underlying this introductory summary are presented in chapters 2-12. The chapters follow the order of assembly, A through J of the chronological scaffolding in figure 1.

## 2

### Jacob's funeral was during Merneptah's reign, in 1207 BC

To date, the earliest record in the Old Testament that has been independently anchored to external history is the founding of Solomon's temple. There are three anchor points to external history that in principle could give the date to the year, two are provided by Josephus in the quotes below. In the first quote, citing Menander the Ephesian, Josephus placed construction of Solomon's temple 143 years and 8 months prior to the founding of Carthage, in the twelfth year of the reign of king Hiram of Tyre.

Since, then, the temple was built at Jerusalem in the twelfth year of the reign of Hiram, there were from the building of the temple until the building of Carthage, one hundred and forty-three years and eight months.

Josephus, *Against Apion* 1:18 / 126

Separately, Josephus states that temple construction began 240 years after the founding of Tyre, in the eleventh (not twelfth) year of king Hiram.

Now the year on which the temple began to be built, was already the eleventh year of the reign of Hiram; but from the building of Tyre to the building of the temple, there had passed two hundred and forty years.

Josephus, *Antiquities of the Jews* 8.3.1

There are serious problems in some tabulations by Josephus, who does not even agree with himself on the year of Hiram's reign, but in the above two quotes there are two independent reference points, the building of Carthage and the building of Tyre. Ancient historians provide conflicting records regarding when these cities were built. Counted from a solar eclipse that fixes the first year of the Peloponnesian war at 341 BC, the initial construction of Carthage may have been in 824 or 814 BC, and the building (refounding) of Tyre may have been in 1184 or 1209 BC.<sup>3</sup> Despite these conflicting records, the requirement that both starting points must lead to the same end point provides a means to filter out errors. Starting from the later date for the founding of Carthage, temple construction would have begun in  $814 + 143\frac{2}{3} = 967$  or 968 BC, with the uncertainty arising from whether 8 months falls short or crosses over the turn of the year. Starting from the earlier date for the building of Tyre, temple construction would have begun in  $1209 - 240 = 969$  BC. This date barely misses 967 or 968 BC as counted from the founding of Carthage. That's close enough for most cases. But it is possible to close in further.

Josephus gave conflicting reports that temple construction began in either the eleventh or twelfth year of Hiram. On that basis, one could arguably claim that in the second quote above, 240 years was correctly counted to Hiram's eleventh year, and that his twelfth year was 968 BC counted from either the building of Tyre or the building of Carthage. This resolves when Carthage and Tyre were built, but leaves unanswered

whether Solomon's temple was built in Hiram's eleventh or twelfth year.

In a third approach to the problem, a bridge to the Assyrian chronology is found in an inscription on the Black Obelisk of Shalmaneser III (858-824), which states that Iaua of the house of Omri delivered tribute in the 18th year of Shalmaneser (841 BC). Iaua has been identified as king Jehu of Israel in 2nd Kings 9-10.<sup>4</sup> Jehu killed his predecessor Joram (the grandson of Omri) and reigned 28 years. Edwin R. Theile has argued, via a series of synchronizations and presumed rules of chronological reckoning (different for kings of Israel than for kings of Judah), that Jehu could only have paid tribute in the year that he killed Joram, and that Solomon was succeeded by his son Rehoboam 90 years earlier, in the year beginning with the month of Tishri (fall) of 931 BC.<sup>5</sup>

If the accession year of Rehoboam was also the 40th year of Solomon (1 Kgs. 11:41), then Solomon's 4th year was  $40 - 4 = 36$  years before 931, beginning in the fall of  $931 + 36 = 967$  BC. Construction of Solomon's temple began in the 4th year, but in the month Ziv (1 Kgs. 6:1), which is the second month of spring. Theile's chronology then places the founding of Solomon's temple in the spring of 966 BC. This date depends upon the soundness of Theile's chronological analysis, but even if Theile's date for Rehoboam's accession is correctly counted from Shalmaneser's 18th year, the date for construction of Solomon's temple is dependent upon Solomon's reign ending in exactly his 40th year (i.e. 40 years is not a rounded number). This is far from certain, but spring of 966 BC is again very close to the eleventh or twelfth year of Hiram as derived above from the records of Josephus.

Recently, Rodger Young and Andrew Steinmann<sup>6</sup> have argued that Theile's analysis contains an inconsistency that can be resolved by placing Solomon's death in the first half of his 40th year, rather than the second half. With that change, still consistent with the biblical record, temple construction began in the spring of 967 BC. Furthermore, by proposing that Hiram felled timbers for the temple in his twelfth year, 968 BC, but did not deliver the timbers (partly by sea) until weather permitted in the following spring, Young and Steinmann argue that temple construction began (in Jerusalem) in the spring of 967 BC via any of the three anchor points: the building of Tyre, the founding of Carthage, or Jehu's tribute to Shalmaneser III. While one could argue that this amounts to grasping for excuses to make unreliable records match, three independent routes to the year that construction began can be nudged into agreement at 967 BC. One must at least call this the most probable year. Furthermore, in the analysis to follow, the year 967 BC links via two additional steps (intervals A and B of figure 1) to an exact tree ring date. When the pegs drop into holes centuries apart, that's when a chronology is solved.

Beginning with the spring of 967 BC as the most probable date for the founding of Solomon's temple, the key to extending the Biblical chronology back into the age of the patriarchs is found in 1st Kings 6:1, which has traditionally been interpreted as the time elapsed since Moses led the Exodus out of Egypt.

In the four hundred and eightieth year after the Israelites had come out of Egypt, in the fourth year of Solomon's reign over Israel, in the month of Ziv, the second month, he began to build the temple of the Lord.

1st Kings 6:1

Placing the Exodus 480 years prior to Solomon's temple has been problematic, overshooting the archaeological record of when Israelite culture emerged in Canaan. Upon closer inspection, 1st Kings 6:1 says nothing of Moses or the Exodus, only that "*Israelites had come out of Egypt.*" Aside from the archaeological argument, this can't be a reference to the Exodus, because if reasonable lifetimes are assigned to each generation,

the time elapsed is too long for the number of generations since the Exodus. Solomon was a direct descendant of Abraham through Jacob and his son Judah. Thus Solomon's ancestry serves as a rough guide of time elapsed.

1. Abraham 2. Isaac 3. Jacob 4. Judah 5. Perez 6. Hezron 7. Ram 8. Amminadab  
9. Nahshon 10. Salmon 11. Boaz 12. Obed 13. Jesse 14. David 15. Solomon.

Five generations after Judah, Nahshon was a contemporary of Moses and leader of the people of Judah on the Exodus (1 Chr. 2:10, Num. 2:3). Nahshon was just six generations before Solomon, which places rough limits on the time interval from the Exodus to Solomon. Though elderly men can bear children, it is not the norm. Most children are born to men in their 20's and 30's. Biblical chronologies placing the Exodus 480 years before Solomon require an absurd average of 80 years per generation. Even if corrected to half-years, an average of 40 years per generation is unreasonably high; an occasional father in his 40's does not raise the average to 40. It is more likely that 1st Kings 6:1 is a record of the time elapsed since Israelites had come out of Egypt, but it was a journey from Egypt significantly earlier than the Exodus led by Moses.

Israelites also came out of Egypt to attend Jacob's funeral in Canaan (Gen. 50:13). That's twelve generations before Solomon in 240 years, which is very compressed, but Jacob was an old man when he died and one should actually count only the eleven generations from Judah to Solomon in 240 years. That's an average of about 22 years per generation, which is marginally possible.

Jacob was the father of Joseph, who had risen to power in Egypt. Joseph's eleven brothers and their father had moved to Egypt at the pharaoh's invitation (Gen. 45:17-18). When Jacob died, his body was taken back to Canaan for burial, accompanied by all of his family – the Israelites.

So Joseph went up to bury his father. All Pharaoh's officials accompanied him – the dignitaries of his court and all the dignitaries of Egypt – besides all the members of Joseph's household and his brothers and those belonging to his father's household... When they reached the threshing floor of Atad, near Jordan, they lamented loudly and bitterly; and there Joseph observed a seven-day period of mourning for his father.

Genesis 50:7-10

It was such a large congregation that the period of mourning was held at a gathering place sufficient for the crowd – the threshing floor of Atad, which is described as near the Jordan. There is no known city of Atad. The name has either been changed, or it was the name of a person. A threshing floor at an indeterminate location in Canaan is significant because Solomon's temple was also built on a threshing floor, in Jerusalem, which from the perspective of Israelites traveling from Egypt, was near the Jordan.

Then Solomon began to build the temple of the Lord at Jerusalem... It was on the threshing floor of Araunah the Jebusite, the place provided by David. He began building on the second day of the second month in the fourth year of his reign.

2nd Chronicles 3:1-2

If the spring of 967 BC was the 480th half-year after the Israelites had come out of Egypt to attend Jacob's funeral, then Jacob had died  $480 \div 2 = 240$  years earlier (figure 1, interval A), in  $967 + 240 = 1207$  BC. By this interpretation, Jacob died in Egypt during the reign of pharaoh Merneptah (1212-1200). And thus we have a calculated date for where Jacob belongs within Egyptian history. This calculated result must next be tested

for plausibility. Is there any biblical or archaeological evidence consistent with the death of Jacob during the reign of Merneptah? The answer is ‘yes’ in both cases. Merneptah was the son of Ramesses II, who built a new Egyptian capitol, Pi-Ramesse, in the Nile delta, as a replacement for the traditional capitol Thebes. This new capitol is acknowledged indirectly in the biblical narrative, when Jacob and his sons were given property in “*the district of Rameses*”

So Joseph settled his father and his brothers in Egypt and gave them property in the best part of the land, the district of Rameses, as pharaoh directed.

Genesis 47:11

On the basis of the above reference to Rameses, biblical scholar Olaf Toffteen argued more than a century ago that Joseph could not have settled his family in the district of Rameses until after pharaoh Ramesses II (1279-1212) had built a new Egyptian capitol by that name. Toffteen’s conclusion has been largely ignored or dismissed by the scholarly world. There are appropriate reasons for historians to doubt claims in the Bible, but this is not a supernatural claim or a statement with any obvious propaganda value. Thus the place name Rameses in Genesis 47:11 should not be summarily dismissed.

We have already seen that the people in this document could not have come into Egypt until there was a land of Raamses. We have seen that the city-land known by this name is not known before the time of Ramses II, who reclaimed it from the swamps and gained it for cultivation... We have then in his reign a definite *terminus a quo* for the settlement of the Hebrews in Egypt.

Olaf Toffteen, *The Historic Exodus*, (1909), pp. 223-4.

Next, combine this chronological restriction that Joseph settled Jacob in Egypt during or after the reign of Ramesses II with the biblical report that Joseph’s rise to power in Egypt began during a great famine that struck not just Egypt, but all of the known world. Presuming the famine was historical, and occurred no earlier than the 13th century reign of Ramesses II, this great famine matches the widespread political upheaval in the late 13th century known as the Bronze Age collapse. An attempted invasion of Egypt by the Sea Peoples in the 5th year of Merneptah, the destruction of Ugarit, and the fall of the Hittite empire, all occurred at about the same time. The collapse appears to be triggered in part by starvation in the Mediterranean world, leading to desperation and war. In an inscription at Karnak, Merneptah describes the attack upon Egypt as driven by hunger. The invaders fought “*to fill their bodies daily*.”

They spend their time going about the land, fighting, to fill their bodies daily. They come to the land of Egypt, to seek the necessities of their mouths...

Great Karnak Inscription, trans. by James H. Breasted,  
*Ancient Records of Egypt*, vol. 3, (1906), p. 244.

In the same inscription, Merneptah reports that he had shipped Egyptian grain to his allies the Hittites, who were also stricken by famine.

The previous decades had seen a great migration in the Aegean and Ionian world that had probably been caused by widespread crop failure and famine. According to a long inscription at Karnak (between the Seventh Pylon and central part of the temple), Merneptah had actually sent grain to the starving Hittites...

*The Oxford History of Ancient Egypt*, (2003), p. 295.

In a letter from Merneptah found at Ugarit (RS 94.2002 + 2003), there is also mention of grain sent from Egypt to relieve famine in Ugarit.<sup>7</sup> Merneptah's shipments of grain to Ugarit and to the Hittites is a match to the biblical claim that Joseph sold Egyptian grain to other countries.

There was famine in all the other lands, but in the whole land of Egypt there was food... And all the countries came to Egypt to buy grain from Joseph, because the famine was severe in all the world.

Genesis 41:54-57

The biblical record matches the career of Jacob's son Joseph to a known famine during the reign of Merneptah. It is then very plausible that the elderly Jacob died during the reign of Merneptah. Yet another clue is found on Merneptah's victory stele. During his adult life, Jacob's name was changed to Israel. Pharaoh Merneptah boasted that "*Israel is laid waste*" on his victory stele of year 5 (1208/7 BC). This boast has been interpreted as evidence that the Exodus had already arrived in Canaan. But this interpretation need not be the case. A determinative in front of the word Israel implies that it was the 'people of Israel' who were attacked in a punitive campaign by Merneptah.<sup>8</sup> The people of Israel could refer to an indigenous population in Canaan ruled by Jacob (Israel), who was *alive at the time*. The literalist interpretation that all Israelites descended from the man named Israel could not yet apply, and since commoners are often named after their ruler, it is more plausible that the 'people of Israel' included unrelated commoners ruled by Israel.

One must also consider that Jacob/Israel was a guest of the pharaoh in his final years, not an enemy. This can be explained by clues in the biblical narrative that Abraham, Isaac and Jacob were politically powerful men – all had meetings with kings or pharaohs during their lives. If Abraham, Isaac and Jacob were not enemies of the pharaoh, and certainly Jacob was not, they could have been vassal rulers (territorial governors) within the Egyptian empire. In that case, the people ruled by Israel could have rebelled against Egypt (including Jacob), and then been attacked by Merneptah's army, even while the man named Israel remained a friend of the pharaoh.

While the above explanation for the defeat of Israel on Merneptah's victory stele is speculative, it is sufficient to show that placing the death of Jacob/Israel within the reign of Merneptah is plausible. The date 1207 BC for Jacob's funeral is not proven to the year, nor is it found to contradict the historical record. As such, it can be tentatively tacked into place, to see if the next piece of scaffolding connects. Building a coherent chronology from ancient records is fraught with false leads. I do not present the numerous cases where this process has failed. In this case, the scaffolding comes together.

### 3

## Noah's flood followed the eruption of Vesuvius in 1647 BC

Noah lived 15 generations before Jacob's sons, who survived their father's death in 1207 BC and were alive in c.1200 BC. If roughly estimated at  $30 \pm 10$  years per generation, Noah would have been alive  $15 \times (30 \pm 10) = 450 \pm 150$  years before c.1200 BC. Any historical equivalent of Noah's flood would be found within the range 1650 BC  $\pm$  150 years. This places the flood in the chronological proximity of a tree ring phenomenon in the 1640's BC known as the 'ring 854 anomaly.' For a brief period trees in Anatolia grew at a phenomenal rate. A volcanic eruption was suspected to be the cause. A massive volcanic eruption's ability to dramatically alter the atmosphere, resulting in perpetually overcast skies and excessively wet weather, provides a causal explanation.

I suspected a biblical connection as well – a volcanic eruption in some way led to wet weather, phenomenal tree growth, and Noah's flood. However, a search for the exact date of Noah's flood has not been in the realm of serious scholarship. It should be. Legends often grow from phenomenal historical events. A comparison of Hebrew records with tree ring data has confirmed this suspicion. Counted from the death of Jacob in 1207 BC, the date of Noah's flood is recorded in the Book of Jubilees as precisely 1647 BC, and as will be shown below, tree rings from Anatolia, as well as Ireland and Germany, bear evidence of a phenomenally cool and wet year in exactly 1647 BC. The Hebrews recorded the date of the flood to the year, but their calendar in the Book of Jubilees had not been understood.

Consider first the date of Noah's flood as recorded in the Book of Jubilees. Accompanying a description of the flood, an exact calendar date is given as follows: in the 27th jubilee, 5th week, 6th half-year.

And Noah made the ark... in the twenty-seventh jubilee of years, in the fifth week... And he entered in the sixth year thereof... on the new moon of the second month... And the flood-gates began to pour down water from the heaven forty days and forty nights, And the fountains of the deep also sent up waters, until the whole world was full of water.

Book of Jubilees 5:22-25

Later in the Book of Jubilees, the death of Jacob (Israel) is reported as having occurred in the 45th jubilee, 5th week, 4th half-year.

And Israel lived in the land of Egypt seventeen years and all the days that he lived are three jubilees, one hundred and forty-seven years, and he died in the fourth year of the fifth week of the forty-fifth jubilee.

Book of Jubilees 45:13

A jubilee is seven 'weeks' of seven half-years each, totaling 49 half-years. This is confirmed above in the duplicate record of Jacob's lifetime "*all the days that he lived are*

three jubilees, one hundred and forty-seven years” Jacob lived  $3 \times 49 = 147$  half-years. A jubilees calendar date is comprehensible when compared with another for which the BC year is known. The earlier date must be subtracted from the later date to determine the interval between two recorded events. Noah’s flood was  $880 \div 2 = 440$  years before Jacob’s funeral. The arithmetic is as follows (borrow 7, not 10, when necessary for subtraction):

45th jubilee, 5th week, 4th half-year = death of Jacob (1207 BC)

27th jubilee, 5th week, 6th half-year = date of Noah’s flood

17 jubilees + 6 weeks + 5 = difference in half-years

$(17 \times 49) + (6 \times 7) + 5 = 880$  half-years  $\div 2 = 440$  years

By the jubilees calendar, Noah’s flood was 440 years before Jacob died (figure 1, interval B) corresponding to the year  $1207 + 440 = 1647$  BC. Now consider the tree ring evidence. A brief period of phenomenally wet weather in the 17th century BC is recorded in the form of exceptionally wide tree rings from Ireland, Germany and especially Anatolia, closest to the Mesopotamian watershed. Figure 2 shows tree ring examples from Northern Ireland and Anatolia. The Anatolian sample is from a Hittite archaeological site in Porsuk, Turkey. All trees from this site exhibit the extraordinary growth surge called the ring 854 anomaly.

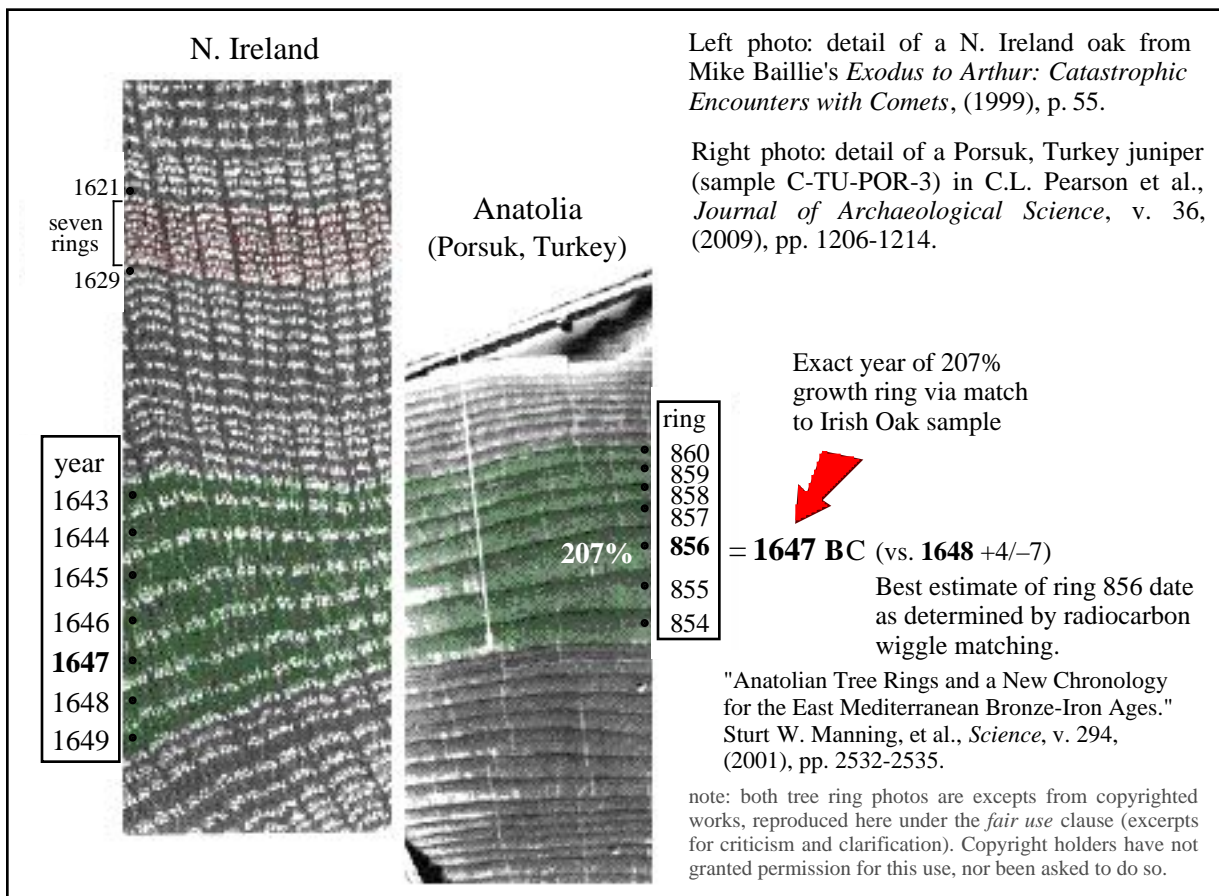


Figure 2: The ring 854 anomaly is a mid-17th century BC period of phenomenally cool and wet weather. Extraordinary tree growth reached a maximum in 1647 BC.



Gaps in the Anatolian tree ring record prevent counting continuously to the year. When the phenomenon was first observed, radiocarbon comparisons with trees of known age placed the onset of the anomaly (ring 854) in the range 1641 BC  $\pm$  76/–22 years.<sup>9</sup> This spanned most of the 17th century. Later, improved radiocarbon methods narrowed this range to 1650 BC  $\pm$  4/–7 years.<sup>10</sup> In the Northern Ireland sample whose rings are exactly calibrated by a series of narrow rings beginning in 1628 BC, a growth surge is also readily apparent, beginning in 1649 BC. Matching the wide rings of the Anatolian sample to those of the Ireland sample, Ring no. 856, the widest Anatolian ring (and presumed year of the flood), aligns to 1647 BC.

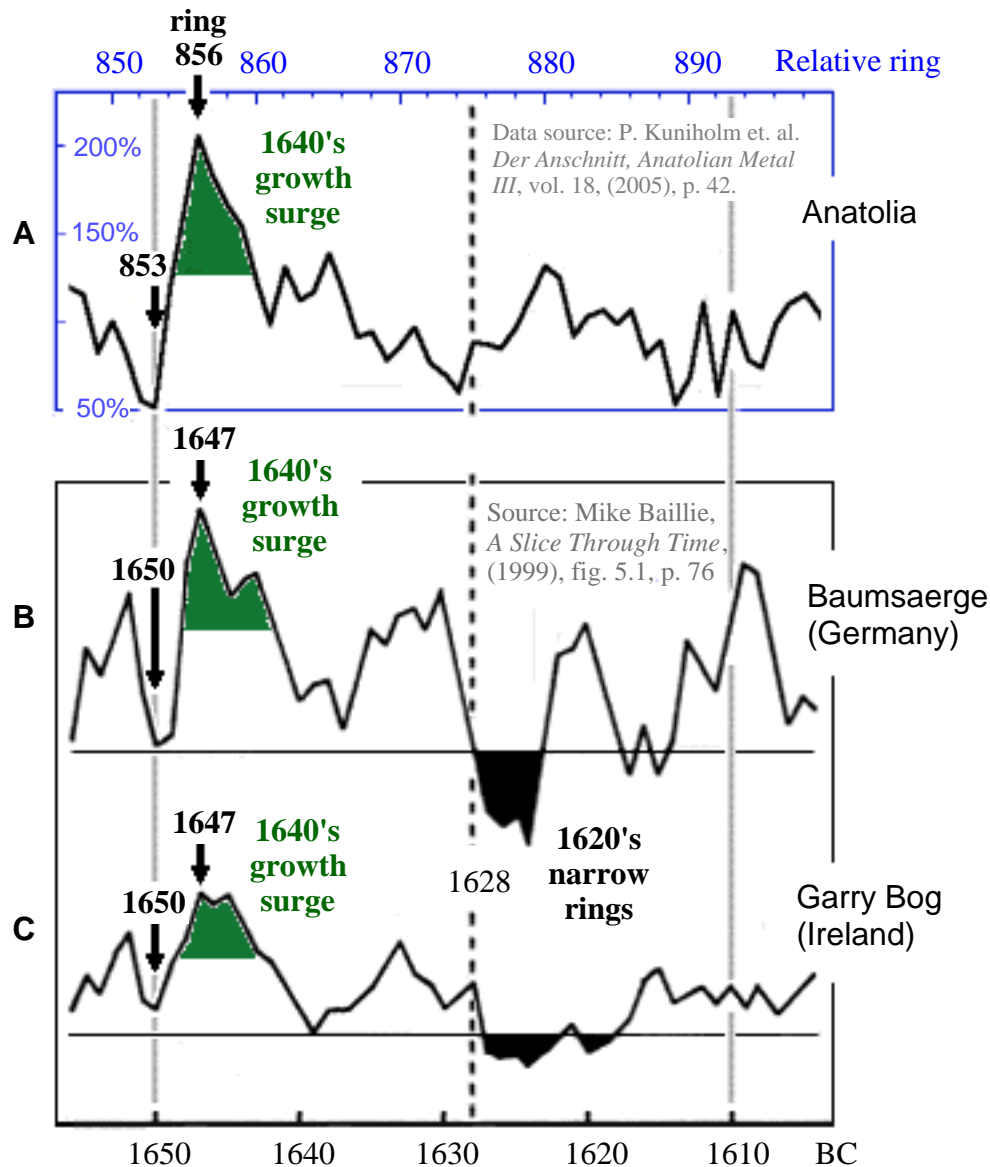


Figure 3: Average tree ring widths in the 17th century BC. The Anatolian ring 854 anomaly reaches a maximum at ring 856, corresponding to the year 1647 BC, via comparison with a similar 1640's growth surge in German and Irish trees.

Figure 2 is representative evidence from just two trees. It's less abstract when you can look at the rings, but more than two trees should be examined. Figure 3 is the averaged data of many trees. Peaks are years with high average growth and valleys are years with

low average growth. As seen in figure 3, the c.1640's growth surge is common to trees in Anatolia, Germany and Ireland. Once again ring 856, the widest ring (ever) in the Anatolian data, can be confidently aligned to 1647 BC in tree rings that have been counted to the year.<sup>11</sup>

Tree rings show the effect of a weather anomaly, but not the cause. However, a mid-17th century BC acidity spike at 736.47 meters in the GRIP ice core is consistent with the most plausible cause, volcanic pollution of the atmosphere.<sup>12</sup> The environmental impact of the 1647 BC eruption can be inferred from how far tree growth deviated from the norm. As explained in the quote below, the ring 854 anomaly contains the widest tree rings in 9,000 years.

The most marked tree-ring growth anomaly in the Aegean dendrochronological record over the last 9000 years occurs in the mid 17th century BC, and has been speculatively correlated with the impact of the Late Bronze Age eruption of Thera (Santorini). If such a connection could be proved it would be of major interdisciplinary significance. It would open up the possibility of a precise date for a key archaeological, geological and environmental marker horizon, and offer a direct tie between tree-ring and ice-core records some 3600 years ago.

Charlotte L. Pearson et. al., *Journal of Archaeological Science*, vol. 36. (2009), p. 1206.

Thera, in the Aegean Sea, has been a prime suspect as the volcano responsible for both the ice core signal and the wide tree rings, but that connection has not been wholly consistent with incoming evidence. Several less newsworthy volcanoes have similar 17th century BC radiocarbon dates: the Avellino eruption of Vesuvius, an earlier eruption of St. Helens, and the Alaskan volcano Aniakchak.<sup>13</sup> The date of the ice core eruption signal was initially estimated as 1645 BC  $\pm$  20<sup>14</sup> and more recently as 1645 BC  $\pm$  4.<sup>15</sup> In 2006, radiocarbon analysis of an olive branch discovered embedded in the ash of Thera placed Thera's eruption no earlier than 1627-1600 BC.<sup>16</sup> Thus the 1647 BC tree ring anomaly does match the ice core date of a volcanic eruption, but it no longer matches the eruption of Thera. In particular, exceptionally wide tree rings in Anatolia could be due to another upwind volcano in southern Europe, Vesuvius.

While radiocarbon is inherently imprecise, it is possible to precisely match ice core and tree-ring records for two 17th century BC eruptions. The eruption that produced exceptionally wide tree rings in 1647 BC was followed by an eruption that sharply stunted growth in Irish oaks beginning in 1628 BC (seven narrow rings in upper left of figure 2). Bristlecone pines in the western United States were also damaged by late spring frost in 1627 BC.<sup>17</sup> That's close enough to be related to the same eruption, and is thus evidence of a cold spell throughout the northern hemisphere.

Such disparate weather effects, cold vs. wet, are possible based on the location of the eruption. An eruption in Alaska or Iceland would blot out the sun in the northern latitudes, causing additional cooling of already dry polar air. The result would be cold dry summers in Ireland and late spring frost in the United States. An eruption at the latitude of Vesuvius would have a very different effect. The atmosphere would be darkened and cooled in the mid-latitudes. Whenever moist air circulating from the south entered this cooler mid-latitude region, heavy rains would fall. Thus a northern eruption produces cold dry summers resulting in narrow tree rings. A mid-latitude eruption produces cool but exceptionally rainy summers, resulting in wide tree rings.

The exact year of a 17th century BC eruption cannot be read from an ice core alone. However, once one is accurate to within five years, the eruption causing narrow rings beginning in 1628 BC can be confidently aligned to a signal in the GRIP ice core at 733.55 meters (figure 4, far right). That eruption began in the summer (when acidity was

falling). To cause an exceptionally narrow ring, the weather must have been poor during all of the 1628 BC growing season, including the spring, which places the eruption in the previous year, summer of 1629 BC. Counting back to the much larger eruption signal in 1645 BC  $\pm$  4, that signal reached a maximum in 1646 BC, but the signal began to rise a full year earlier, in the summer of 1647 BC. This means that the eruption was in the spring or summer of 1647 BC, causing heavy precipitation and exceptional tree growth immediately. Atmospheric pollution from the eruption took several years to clear, and tree-rings took several years to gradually return to normal size.

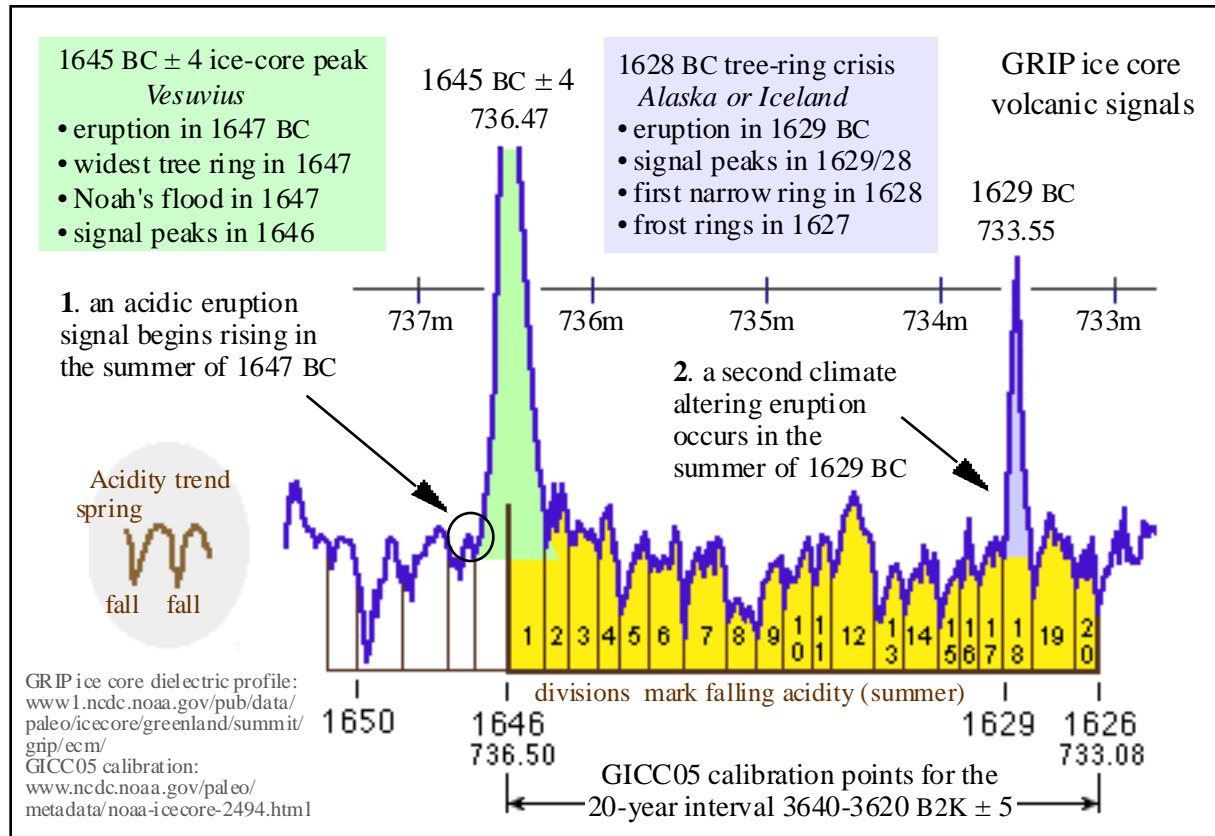


Figure 4: GRIP ice core record of two 17th century BC eruptions that match and explain two distinctly different tree ring anomalies: wide rings in the 1640's are consistent with the mid-latitude eruption of Vesuvius, narrow rings and late spring frost damage beginning in 1628 are consistent with a northern latitude eruption in 1629.

The massive eruption at 736.47 meters in the GRIP ice core explains the exceptionally wide tree rings in 1647 BC, but not the two years of wide rings preceding the eruption year (rings 854 and 855 of figure 2). That piece of the puzzle, as well as the location of the volcano, is explained by a ring by ring chemical analysis of three samples from Porsuk, Turkey, performed by scientists at Cornell University.<sup>18</sup> The sample analyzed most extensively “showed increases of rare earth elements in rings 856 and 857, and unusual elements such as selenium (Se) and yttrium (Y) from ring 855 onwards. Of particular note is a spike of Hf in ring 854.” Thus different elements arrived in different years, suggesting a nearby volcano that was active both before and after ring 856, the year of maximum growth. Vesuvius could have awakened with a lesser eruption that darkened the skies prior to the explosive eruption that produced an acidity spike in faraway Greenland and pushed tree growth to a maximum.

The Avellino eruption of Vesuvius (henceforth considered the cause of the ring 854 anomaly) was of such magnitude that it must have caused in an enormous human tragedy. Noah's flood matches the date of the eruption, and thus, despite the inclusion of mythical claims, must be a partially historical recollection of the devastation. From the perspective of those in southern Mesopotamia, in 1647 BC the whole world was underwater. The rest can be imagined. The floodwaters were upon the earth 150 days (Gen. 7:24). For those who survived the rising waters, what remained when the water subsided? All crops would have been destroyed; all animals would have died. Desperate refugees would have sought a land that still had food. And that land would not welcome the starving masses.

In the following account of the c.1650 BC Hyksos conquest of Egypt, the mention of a "*blast from God*" is consistent with the actual blast from the eruption of Vesuvius, as heard and felt 1,200 miles away in Egypt. The Hyksos invaders match chronologically to the expected Mesopotamian refugees from the flood recorded by the Hebrews. This ties together the eruption of Vesuvius, Noah's flood and the Hyksos invasion, in that order, all in 1647 BC.

Tutimaheus. In his reign, for what cause I know not, a blast from God smote us; and unexpectedly, from the regions of the East, invaders of obscure race marched in confidence of victory against our land. By main force they easily seized it without striking a blow... Their race as a whole was called Hyksos, that is 'king-shepherds'... Some say they were Arabs.

Manetho, *Aegyptiaca*, Fr. 42, (from Josephus, *Contra Apionem*, i. 14).  
Translation by W. G. Waddell, (1964), pp. 79-85.

The Hyksos invaders are called king-shepherds or possibly Arabs. There are several cases of Mesopotamian kings who called themselves shepherds. In the prologue to Hammurabi's code of laws, Hammurabi calls himself "*Enlil's chosen shepherd*".<sup>19</sup> In a temple dedication at Ur, Hammurabi's rival to the south, king Rim-Sin I, is called "*the mighty Shepherd of Nipur, the herdsman of Ur, the king of Larsa*"<sup>20</sup> and in a dedication to the gods, the Kassite Babylonian king Kurigalzu calls himself, "*Kurigalzu, the shepherd beloved by Belit, he who fears and obeys Bel*."<sup>21</sup> The term 'king-shepherds' in combination with the blast from God prior to the Hyksos invasion, makes it a near certainty that the Hyksos were refugees from the flood that had devastated southern Mesopotamia. They may have been confused with Arabs because they came toward Egypt via the Arabian Desert, but Vesuvius would have created a crisis in Mesopotamia, not in Arabia.

A final piece of the puzzle is a confirmation that the distant eruption was also heard and felt in Mesopotamia immediately prior to Noah's flood. The following quote from the Book of Jasher is a Hebrew record of the roar of the distant eruption and corresponding earthquake, "*the whole earth was moved violently*" seven days before the floodwaters arrived.

And on that day, the Lord caused the whole earth to shake, and the sun darkened, and the foundations of the world raged, and the whole earth was moved violently, and the lightning flashed, and the thunder roared, and all the fountains of the earth were broken up, such as was not known to the inhabitants before; and God did this mighty act, in order to terrify the sons of men, that there would be no more evil upon earth... and at the end of seven days, in the six hundredth year of the life of Noah, the waters of the flood were upon the earth.

Book of Jasher 6:11-13

Even though it is a record of Noah's flood, there is no mention of rain in the above

account. There are earth tremors; there is a thunderous roar (the world raged); the sun is darkened, and then a seven-day delay before the waters of the flood were upon the earth. The seven-day delay is because the sun was darkened by clouds of volcanic ash, not by rain clouds. It seldom rains in Mesopotamia during the summer months. The rain fell in the mountains to the north. It took seven days for the first torrents of rain in Anatolia to come downstream and overflow the riverbanks in the lowlands of Mesopotamia. Then the waters of the flood were upon the earth.

In summary, though the biblical story of Noah's flood survives in the form of an exaggerated myth, the Book of Jubilees records the date of a very real and catastrophic flood in 1647 BC. The Book of Jasher records the sound of the distant eruption of Vesuvius, the violent earth tremor, and the sky filling with volcanic ash before the floodwaters arrived. The GRIP ice core records the atmospheric pollution that caused the exceptional rainfall. Manetho records the blast of the eruption as heard from Egypt, followed by the arrival of Hyksos invaders who were very likely refugees from the Mesopotamian flood. It is all one coherent picture; Noah's flood is part of a much larger story of catastrophe and human tragedy triggered by the eruption of Vesuvius.

The date of the eruption is exactly 1647 BC from the tree ring record, but the same date is found by counting from construction of Solomon's temple in 967 BC to Jacob's death in 1207 BC to Noah's flood in 1647 BC. This is a resounding confirmation that the Hebrews kept chronological records accurate to the year for more than six centuries. Not every Hebrew record is preserved accurately, but with a few key dates in place, errors can be eliminated, and details filled in.

## 4

### Horemheb promised land to Abraham in 1319 BC

Moving forward to the life of Abraham, the first covenant, or promise to Abraham, was a land grant: “*The Lord appeared to Abram and said, ‘To your offspring, I will give this land.’*” (Gen. 12:7). This was a memorable event in Hebrew history because it was the establishment of Hebrew dominion in a land that later became Solomon’s kingdom. But who granted land to Abraham? A conversation with a supernatural being is not surprising in a religious document, but such a conversation is unlikely to be historical. The geographic region was called Canaan because at the time of Abraham’s arrival, Canaanites were in the land (Gen. 12:6). However, the land of Canaan was also part of the Egyptian empire, which is never mentioned in Hebrew records. Within the Egyptian empire, only the pharaoh had authority to grant a vast tract of land to Abraham. Abraham’s Lord was most likely a pharaoh.

The original record of the promise probably stated that Abraham was receiving land from the pharaoh, but later, when Abraham’s biography became part of the state religion of king Solomon, there would have been a conflict between telling history as it happened, vs. telling a story that emphasizes the independence of Solomon’s kingdom. The land ruled by Hebrews was no longer part of the Egyptian empire, as it had been in the days of Abraham through Joseph. Thus Abraham’s loyalty to a pharaoh would have been a memory best forgotten, but not Abraham himself. It appears that Abraham’s conversations with the pharaoh were subtly rewritten as conversations with the Lord (Yahweh). The most obvious example is when the pharaoh is contemplating whether or not to punish the city of Sodom. The Lord (pharaoh) says, “*I will go down and see if what they have done is so bad as the outcry that has reached me. If not, I will know*” (Gen. 18:21). A supernatural being would already know what was happening in Sodom, but the pharaoh was dependent upon reports from his subordinates, which he wanted to confirm for himself.

The sin of these cities would have been rebellion against Egyptian rule. Having decided that punishment was warranted, the destruction of Sodom and Gomorrah need not be supernatural. The pharaoh could have simply ordered his army to encircle each city and rain burning sulfur arrows over the city walls. “*Then the Lord rained down burning sulfur on Sodom and Gomorrah—from the Lord out of the heavens*” (Gen. 19:24). If the Lord is the pharaoh, burning arrows can rain from the heavens – but only in transit. As further punishment, the Egyptian army could burn the surrounding croplands. This explains the scene witnessed by Abraham from the hills above, “*He looked down toward Sodom and Gomorrah, toward all the land of the plain, and he saw dense smoke rising from the land, like smoke from a furnace*” (Gen. 19:28).

Lands within the empire paid tax to the pharaoh or faced punishment. The vassal kings of Sodom and Gomorrah had failed to pay, were punished, and would certainly be replaced. The pharaoh first visited and consulted with Abraham, because several years

earlier Abraham had been granted authority to govern the region as the pharaoh's subordinate. The identity of the pharaoh can be determined from the year in which the promise occurred. In the Book of Jubilees, the promise was in the third month (summer season) of the 41st jubilee, 1st week, 4th half-year.

And it came to pass in the forty-first jubilee... the first week... in the fourth year of this week, on the new moon of the third month, the word of the Lord came to Abram in a dream... And he said unto him: "I am the Lord that brought thee out of Ur of the Chaldees, to give thee the land of the Canaanites to possess it for ever..." And on that day the Lord made a covenant with Abram, saying: "To thy seed I will give this land..."

Book of Jubilees 13:16, 14:1-7, 18

The time elapsed from the promise to Abraham forward to his grandson Jacob's funeral is determined by subtraction as follows:

45th jubilee, 5th week, 4th half-year = death of Jacob (1207 BC)

41st jubilee, 1st week, 4th half-year = year of the promise to Abraham

4 jubilees + 4 weeks + 0 = difference in half-years

$(4 \times 49) + (4 \times 7) + 0 = 224 \text{ half-years} \div 2 = 112 \text{ years}$

Thus, as recorded in the Book of Jubilees, the promise to Abraham was 112 years prior to Jacob's death, corresponding to the year  $1207 + 112 = 1319 \text{ BC}$ . This is a calculated date that must then be compared to history to judge its reliability. The pharaoh at this time was Horemheb (1323-1295).<sup>22</sup> The chronological identification of Horemheb as Abraham's lord (earthly superior, later rewritten as the Levites' deity) is supported by the biography of a pharaoh named Rikayon in the Book of Jasher.

Pharaoh Horemheb's career is unknown prior to his rapid rise to power during the reign of Tutankhamun. Therefore, Horemheb is a possible match to pharaoh Rikayon, a foreigner from Shinar who arrived in Egypt during the reign of pharaoh Osiris. Rikayon won over the pharaoh with his wisdom, then gave the pharaoh a gift of a thousand horses broken to ride. This was demonstrated by placing children on the horses: "*And Rikayon took about a thousand children, sons and daughters, and clothed them in silk and embroidery, and he set them upon horses and sent them to the king by means of his men...*" (Jasher 14:24). The significance of this gift is that horses trained to ride were advanced military technology. The gift makes sense if Rikayon's men were Kassite soldiers offering to serve in the Egyptian army. By placing their children on the horses, they could approach the pharaoh without posing a threat, but horses were not for leisure; they were for war.

The arrival of hundreds of Kassite horsemen in Egypt was such a momentous event that Horemheb had it carved in his tomb. The mural is described in the quote below by Egyptologist James Henry Breasted. Only a panel with the feet of the horses survives, so Breasted did not know that children were riding the horses. The Kassite soldiers (two long double lines of Asiatics) were walking separately:

These reliefs are in two series, both representing Harmhab receiving the reward of gold from his king... behind him approach two long double lines of Asiatics, each pair led by two Egyptians; over these were lines of horsemen!... Only a long line of prancing horses' feet are visible; as there are no chariot wheels among them, and no human feet of men leading them (except at the extreme front) we may suppose here that we have a unique scene on an Egyptian monument – a troop of Asiatic horsemen...

Tomb of Harmhab (Horemheb), J. H. Breasted, *Ancient Records of Egypt*, v. 3, p. 5.

Rikayon had been in Egypt for eight months before his presentation of horses to the pharaoh (Jasher 14:15). During that time he was probably negotiating the terms for bringing Kassites into the Egyptian army. Part of the negotiation would be the rank of Rikayon himself. He was quickly elevated to pharaoh's regent. "*And they made Rikayon Pharaoh prefect under Oswiris king of Egypt*" (Jasher 14:30). Then, without further explanation, it is reported that Rikayon usurped the government "*Rikayon Pharaoh cunningly usurped the government of Egypt*" (Jasher 14:31).

Horemheb served as both Tutankhamun's regent and as commander of the Egyptian army. Tutankhamun was too young to have an heir, and as his regent, Horemheb was next in line for the throne. But upon Tutankhamun's death, a senior court official named Ay, who had served under Tutankhamun's father, usurped the succession and ruled for about four years. Horemheb then usurped the throne from Ay's chosen successor. The story is more complicated than presented in the Book of Jasher, but Horemheb is still the only possible match to Rikayon. Also, the Book of Jasher does not explain why Rikayon's rise to power is relevant to Hebrew history. In some earlier document, Abraham's relationship with Rikayon was probably explained, but it was deleted from the Book of Jasher, leaving a chapter about Rikayon nested within the biography of Abraham.

Horemheb's immigration to Egypt explains why the Lord (Horemheb) brought Abraham out of Ur. "*I am the Lord, who brought you out of Ur of the Chaldeans to give you this land to take possession of it*" (Gen. 15:7). Horemheb and Abraham were fellow immigrants from Kassite Babylonia (Shinar). The practice of granting land to members of the military was a Kassite tradition, attested on boundary stones from Kassite Babylonia.<sup>23</sup> The land that Abraham was to take possession of was land on the border of the Egyptian empire that Horemheb wanted Abraham to defend. The Book of Jasher also reports that prior to their departure from Ur, Abraham's father Terah was "*captain of the host*" to king Nimrod of Shinar (Jasher 11:1, 15). Captain is a military title. Abraham's father Terah was a military commander and/or vassal king within Kassite Babylonia. Abraham was from a ruling class military family.



## 5

### Abraham's journey was due to the rise of Assyria

Abraham's military upbringing allows one to better understand some cryptic passages in Hebrew records. It is yet to be explained why Horemheb and Abraham would defect to Egypt. The reason can be traced to an Assyrian conquest of Kassite Babylonia at roughly the time of their departure. The rise of Assyria was ongoing throughout Abraham's early life. In Hebraeus' account, the Assyrian king Belus died when Abraham was age 15 half-years. The death of Assyria's king coincided with a struggle to rid Abraham's native country of ravens. *"And when Abraham was fifteen years of age he entreated God and drove away ravens which were destroying the country of the Chaldeans and eating up their crops. At this time Belus died..."* (Chronography 1:38). I interpret the above quote as political commentary in disguise. The ravens who steal crops are the Assyrian army. The king of Assyria began attacking Abraham's native land and demanding tribute (eating up the crops). A similar account is found in the Book of Jubilees, which speaks of a flock of ravens sent by prince Mastema. Ravens who take orders from an evil prince are not birds. This too is a veiled reference to the king of Assyria and his army.

And the prince Mastema sent ravens and birds to devour the seed which was sown in the land, in order to destroy the land, and rob the children of men of their labours... And the years began to be barren, owing to the birds, and they devoured all the fruit of the trees from the trees: it was only with great effort that they could save a little of all the fruit of the earth in their days.

Book of Jubilees 11:11-13

The Book of Jubilees also reports that the ravens were driven away when Abraham was age 14 half-years. Though Abraham would have still been a child, he is given credit for driving the ravens away. Abraham may have driven away the Assyrian tribute collectors at some point in his life, but not when he was a child.

And the seed time came for the sowing of seed upon the land, and they all went forth together to protect their seed against the ravens, and Abram went forth with those that went, and the child was a lad of fourteen years. And a cloud of ravens came to devour the seed, and Abram ran to meet them before they settled on the ground... And he caused the clouds of ravens to turn back that day seventy times, and of all the ravens throughout all the land where Abram was there settled there not so much as one... and they sowed their land, and that year they brought enough grain home and ate and were satisfied.

Book of Jubilees 11:18-22

It is significant that Abraham was a lad of 14 half-years when the ravens were turned back, and Abraham was age 15 half-years when king Belus of Assyria died. Assyria's king was likely killed in battle during the summer that Abraham turned 15, bringing a reprieve from the tribute collectors.

The reprieve was only temporary. Assyria's power was rising. The story of Abraham driving away the ravens suggests that Abraham became a leader of the resistance against Assyria. This too is recorded in the Book of Jubilees, if one can see through the metaphors. One must first recognize that ravens that steal seed are really Assyrians that collect tribute, and then recognize that plows modified to protect seeds from ravens are really the frames of plows refitted as frames for war chariots that protect rebels who refuse to pay tribute to Assyrians.

Abram taught those who made implements for oxen, the artificers in wood, and they made a vessel above the ground, facing the frame of the plough, in order to put the seed thereon, and the seed fell down therefrom upon the share of the plough, and was hidden in the earth, and they no longer feared the ravens. And after this manner they made vessels above the ground on all the frames of the ploughs, and they sowed and tilled all the land, according as Abram commanded them, and they no longer feared the birds.

Book of Jubilees 12:45-46

The part of the chariot that is most difficult to obtain is the long frame that extends from the shoulder of the horses to the axle for the wheels. The plow already has a sturdy frame from the shoulder of the oxen to the plowshare. So Abraham was having carpenters remove the plowshare, build an axle where the plowshare was, and add a 'vessel above the ground' – the carriage, to make a chariot that could be hitched to horses rather than to oxen. Nevertheless, the Assyrians must have become too powerful. Abraham and his rebel army ultimately fled to Egyptian-held territory. People don't pack up and move without reason. It was his inability to defeat the Assyrians that explains Abraham's decision to move with his army to Canaan.

In the Bible nothing is stated about Abraham's life in Ur, other than the simple statement that Abraham's brother Haran had died there. "*While his father Terah was still alive, Haran died in Ur of the Chaldeans, the land of his birth*" (Gen. 11:28). Bar Hebraeus gives a more detailed account, stating that after Abraham burned the temple idols (rebelled and destroyed the symbols of Assyrian domination) his brother Haran was burned to death.

And Abraham burned the temple idols which was in Ur of the Chaldees ... And for this reason Abraham, when he was sixty years old, fled to Harran with Terah his father, and Nahor his brother, and Lot, the brother of Haran, who was burnt to death; and he dwelt therein for fourteen years. And then he departed from his father: from Harran and came to the land of Canaan.

Bar Hebraeus, *Chronography* 1:39

Considering Abraham's rebellious action, his brother Haran's death was probably a political execution, and is described as such in the Book of Jasher. Servants of the king bound the hands and feet of both Abraham and Haran. Haran was burned alive. Abraham is said to have miraculously survived.

And they bound their hands and feet with linen cords, and the servants of the king lifted them up... And Haran died when they had cast him into the fire, and he was burned to ashes...

Book of Jasher 12:21-26

Abraham's move to Canaan can be explained if he escaped execution, then fled with his family and his rebel troops to the city of Harran in neighboring Mitanni. Horemheb may have continued on to Egypt and began negotiations for Abraham and his troops to defect to the Egyptian army. When that was arranged, Abraham's men, and perhaps

others fleeing Assyrian oppression, paraded their horses in front of Tutankhamun. Horemheb was then Egypt's army commander, but by the year of the promise to Abraham, Horemheb had become pharaoh.

Horemheb's tomb gives a glimpse of what happened in Egypt. Glimpses of events in Mesopotamia are found in the Synchronistic History, a record from Nineveh of Assyrian and Babylonian interactions.<sup>24</sup> From that record it is known that Kassite Babylonian king Burna-buriash II married the daughter of Assyrian king Ashur-uballit I. Since daughters were generally given as gifts by the lesser king, this was probably early in Ashur-uballit's reign, when Assyria was the lesser power. Burna-buriash died and was succeeded by his son Kara-hardash, who was also the grandson of Ashur-uballit. Kara-hardash was killed in an uprising by Kassite troops, who installed a usurper king described as a "Kassite son of a nobody." Ashur-uballit marched south, crushed the rebellion, and executed the rebel king, then installed another grandson, Kurigalzu II, on the Babylonian throne. This record is confirmed with minor variations in a Babylonian document, Chronicle P.<sup>25</sup>

Ashur-uballit's military intervention and installation of Kurigalzu II as king in Babylonia is probably when Abraham's brother Haran was executed. The defeat of their rebellion gave Kassite troops opposed to Assyrian domination a reason to flee their native land, and gave Egypt a reason to welcome them. The rising power of Assyria was now a threat to Egypt. It appears that Horemheb was a Kassite prince other than the usurper king who was executed. Seeing that the battle for Babylonia was lost, Horemheb offered to join forces with the Egyptian army and then placed Abraham and his troops in charge of Egyptian territory in Canaan. The Kassites of Babylonia, Horemheb and Abraham, were rising to power in Egypt by political alliance, rather than by war.

As demonstrated in chapter 4, by the Jubilees calendar, the first covenant, or promise to Abraham was in 1319 BC (figure 1, interval C). This is a match to the reign of Horemheb. Since there is no Egyptian record of the promise, the Jubilees calendar date cannot be directly confirmed. However, as mentioned in the above discussion of Assyrians portrayed as ravens, in Bar Hebraeus' Chronography, an Assyrian king whom Hebraeus calls Belus, died when Abraham was age 15 half-years. This appears at the end of the passage about Abraham driving away the ravens:

After Terah came Abraham his son... And when Abraham was fifteen years of age he entreated God and drove away ravens which were destroying the country of the Chaldeans and eating up their crops. At this time Belus died, and a second king rose up in Assyria, viz. his son Ninus...

Bar Hebraeus, *Chronography*, 1:38

Bar Hebraeus thus gives a precise anchor to the death of an Assyrian king within the life of Abraham. Knowing that Abraham was contemporary to pharaoh Horemheb narrows the possible candidates for Belus to Assyrian kings of the mid-14th century BC. From the Assyrian king list, there were two long reigning kings of Assyria in approximately the correct time frame: Eriba-Adad I (1380-1354) and Ashur-uballit I (1353-1318).<sup>26</sup> Hebraeus also gave Abraham's age as 85 half-years in the year of the promise: "*And when he was eighty and five years old, that is to say in the first year of the promise...*" (Chronography 1:39). Since Abraham was age 15 half-years when Belus died and he was age 85 half-years in the year of the promise, the time elapsed since Belus died was  $85 - 15 = 70$  half-years, or 35 years prior to the promise to Abraham in 1319 (figure 1, interval D). That places the death of Belus in  $1319 + 35 = 1354$  BC. Belus is then an exact chronological match to Eriba-Adad I. The last regnal year of Eriba-Adad was 1354 BC, and there are no alternatives for decades in either direction.

Eriba-Adad was succeeded by Ashur-uballit I, who reigned from when Abraham was age  $15 \div 2 = 7\frac{1}{2}$  years old until 1318 BC, the year after the promise. As described in chapter 4, Ashur-uballit crushed a Kassite rebellion in Babylonia that provided a reason for Horemheb and Abraham to defect to Egypt. Thus it fits both politically and chronologically that Belus was Eriba-Adad, and that his death in 1354 BC is an exact synchronization to the Hebrew chronology – the lives of Abraham, Isaac, Jacob and Joseph can then be counted forward to the year. However, such blind tallies are meaningless without historical verification. Hebraeus provides that verification. The extent to which Hebraeus interweaves the Hebrew chronology with external history is astounding, and has not been previously recognized – or the Hebrews’ proper place in history would have been solved before now.

In the introduction to this work, Bar Hebraeus’ 15th king of Egypt was identified as pharaoh Sety I. Hebraeus actually placed Abraham’s son Isaac contemporary to both the 15th king of Egypt, named Setis, and the 5th king of Assyria, named Aris.

And in the days of Isaac the fifth king of the Assyria rose up – Aris... And the fifteenth king of the Egyptians, Setis.

Bar Hebraeus, *Chronography* 1:43

Having established that Abraham lived contemporary to the late 18th dynasty pharaoh Horemheb, the logical choice for the 1st king of Egypt is Ahmose, who won Egypt’s independence from subjugation by the Asiatic Hyksos, marking the beginning of the Egyptian New Kingdom (18th through 20th dynasties). The 3rd king of Egypt is then Thutmose I, who extended Egypt’s border southward by conquering Kush.<sup>27</sup> This was a pivotal moment in Egyptian history, because gold from Kush led to an age of prosperity in Egypt that did not end until Kush was lost in the late 20th dynasty. The Egyptian conquest of Kush is confirmed by Hebraeus, though his 3rd Egyptian king bears the name “*Athanopyos*.”

And after him rose up the third governor in Egypt, Athanopyos, and it was because he made war on the Cushites and conquered them that he was called by this name...

Bar Hebraeus, *Chronography* 1:31

The names given to kings by Hebraeus are seldom recognizable, but as shown in figure 5, his numbered list of Egypt’s New Kingdom pharaohs makes it possible to identify any given king. By his conquest of the Cushites, not by the name, Hebraeus’ 3rd king of Egypt is a match to pharaoh Thutmose I. Continuing the count forward, the 10th king of Egypt is described by Hebraeus as ‘the Theban,’ and the 11th king of Egypt is the pharaoh of Genesis 12:15, who took Sarah to his palace during Abraham’s visit to Egypt.

And a tenth king rose up in Egypt, Parandos, the Theban... And after him rose up in Egypt the eleventh king, Pharaoh Panos. This king snatched from Abraham his wife Sara, and he returned her to him afterwards with gold, and silver, and stuffs, and sent him away from Egypt.

Bar Hebraeus, *Chronography* 1:40

Thebes was the 18th dynasty capitol of Egypt, whose pharaohs are listed in figure 5, (below). Excluding the usurper queen Hatshepsut, whose reign fell entirely within that of Tuthmosis III, the 9th king of Egypt was Akhenaten, who built a new capitol at Amarna. The 10th king of Egypt was the little known pharaoh Smenkhkara, who may have been coregent during the final two years of Akhenaten.<sup>28</sup> Smenkhkara could have been known

as the Theban because he reigned from Thebes while Akhenaten was at Amarna. Even though this is not a certainty, it would make no sense to call a New Kingdom pharaoh prior to Akhenaten the Theban. They had all reigned at Thebes.

New Kingdom kings of Egypt		Kings of Egypt as numbered by Bar Hebraeus in <i>Chronography</i>
--- 18th Dynasty ---		<b>bold</b> = historical match
1. Ahmose	1550-1525	
2. Amenhotep I	1525-1504	
3. <b>Thutmose I</b>	1504-1492	= <b>3rd</b> : Athanopyos, <b>conquered the Cushites</b>
4. Thutmose II	1492-1479	
5. Thutmose III	1479-1425	
& Queen Hatshepsut		
6. Amenhotep II	1427-1400	
7. Thutmose IV	1400-1390	
8. Amenhotep III	1390-1352	
9. Akhenaten	1352-1336	
10. <b>Smenkhkara</b>	1338-1336	= <b>10th</b> : Parandos, <b>the Theban</b>
11. Tutankhamun	1336-1327	= 11th: Panos, took Sarah from Abraham
12. Ay	1327-1323	
13. Horemheb	1323-1295	
--- 19th Dynasty ---		
14. Ramesses I	1295-1294	
15. <b>Sety I</b>	1294-1279	= <b>15th Setis</b> , reigned in the days of Isaac

Figure 5: Bar Hebraeus' 3rd, 10th, 11th, and 15th kings of Egypt, aligned to the New Kingdom chronology of Ian Shaw, *The Oxford History of Ancient Egypt*, (2003), p. 484.

The identification of Smenkhkara as the Theban places Abraham's visit to Egypt during the reign of Tutankhamun, the 11th king. Though Abraham's trip to Egypt was purportedly to escape a famine (Gen 12:10), Horemheb had most likely called Abraham to Egypt in preparation for a military deployment. One can presume that Horemheb was Tutankhamun's army commander by this time, since Abraham left Egypt well stocked with provisions for an army, "and Abram acquired sheep and cattle, male and female donkeys, menservants and maidservants... Abram had become very wealthy in livestock and silver and gold" (Gen. 12:16, 13:2). The Bible explains Abraham's acquisition of wealth differently, claiming that the gifts were given to Abraham by the pharaoh on account of Sarah's beauty. That explanation makes less sense than Horemheb giving Abraham what he needed to feed and pay an army defending Egypt's territorial borderlands.

To summarize, an exact chronology allows one to understand the nature of Abraham's journey to Canaan. Abraham was a Kassite military leader whose brother was executed when Babylonia was conquered by the Assyrian king Ashur-uballit I. Horemheb arranged for himself and Abraham to defect and join the Egyptian army. This isn't recorded directly in Hebrew texts. Except for Abraham's war with Kedorlaomer, the military nature of Abraham's career is largely erased. Abraham's first assignment in Egyptian territory was not in Canaan; it was on Egypt's troubled northern frontier at Damascus. This is recorded by Josephus, quoting Nicolaus of Damascus.

And Nicolaus of Damascus, in the fourth book of his History, says thus: "Abram reigned at Damascus, being a foreigner, who came with an army out of the land above Babylon, called the land of the Chaldeans. But after a long time he got him up, and removed from that

country also with his people, and went into the land then called the land of Canaan, but now the land of Judea... Now the name of Abram is even still famous in the country of Damascus; and there is shown a village named from him, The Habitation of Abram.”

Josephus, *Antiquities of the Jews* 1.7.2

Abraham’s move south to Canaan came when Egypt’s eastern frontier was threatened in the valley of the Salt Sea. King Kedorlaomer of Elam had been collecting tribute from Sodom and four nearby cities (Gen. 14:4). Though not recorded in the Bible, Kedorlaomer’s collection of tribute was an infringement on Egyptian territory that Horemheb sought to end. Josephus further reports that Kedorlaomer and his allies were vassals of Assyria. This means that Assyrian king Ashur-uballit had conquered Elam as well as Kassite Babylonia (Kedorlaomer’s ally, king Amraphel of Shinar, Gen. 14:1), and was again pressing to expand his empire.

...the Assyrians were conquerors; and imposed a tribute on the kings of the Sodomites, who submitted to this slavery twelve years; and so long they continued to pay their tribute: but on the thirteenth year they rebelled, and then the army of the Assyrians came upon them, under their commanders Amraphel, Arioch, Chodorlaomer, and Tidal.

Josephus, *Antiquities of the Jews* 1.9.1

In the Bible Abraham’s Kassite troops are vaguely identified as “318 trained men born in his household” (Gen. 14:14). They were an army. It takes an army to defeat an army. Abraham’s trained men hunted down and routed the army of Kedorlaomer.

When Abram heard that his relative had been taken captive, he called out the 318 trained men born in his household and went in pursuit as far as Dan. During the night Abram divided his men to attack them and he routed them, pursuing them as far as Hobath, north of Damascus.

Genesis 14:14-16

It was after the defeat of Kedorlaomer that Abraham and his descendants were promised land in Canaan. I’ve previously omitted part of the quote. Bar Hebraeus actually calls this the year of the “*promise concerning Egypt*.” Though how the promise involved Egypt is not explained. If Hebraeus knew more, he didn’t share it.

And when he was eighty and five years old, that is to say in the first year of the promise concerning Egypt, he begot Ishmael by Hagar.

Bar Hebraeus, *Chronography* 1:39

After becoming pharaoh, Horemheb had granted Abraham a tract of Egyptian territory to be ruled in perpetuity by Abraham and his descendants. This was the first covenant. When the covenant was later confirmed, the Lord announced: “*I will confirm my covenant between me and you and will greatly increase your numbers*” (Gen. 17:2). What was being increased? Abraham was granted a larger territory and greater number of people to rule over. One condition of the renewed covenant was circumcision (Gen. 17:11). This was an Egyptian practice, and a means for soldiers serving Egypt to prove that they had killed an enemy. An uncircumcised phallus was proof of a kill, but this only worked if all soldiers serving Egypt were circumcised.

The Lord was Horemheb. The covenant was the establishment of a vassal kingdom in Canaan. Though it is not stated explicitly, as a vassal king, Abraham would also collect and forward tax to the pharaoh. This agreement is implied when Abraham asked what he must do to gain possession of the land. Abraham was told to bring livestock. He then proceeded to cut the animals into halves and arrange them such that it would be clear that

he had divided them equally. The reason for this division into equal parts is readily apparent. Half of the tax from Abraham's territory would be the pharaoh's share. Abraham could keep half for himself, and live like a king... provided that he drove away the birds (Assyrians).

But Abram said, "O Sovereign Lord, how can I know that I will gain possession of it?" So the Lord said to him, "Bring me a heifer, a goat and a ram, each three years old, along with a dove and a young pigeon." Abram brought all these to him, cut them in two and arranged the halves opposite each other... Then birds of prey came down on the carcasses, but Abram drove them away.

Genesis 15:8-11

Tutankhamun was the first of several pharaohs who reigned while Abraham was Egypt's vassal king in Canaan. Tutankhamun was succeeded by Ay, the 12th king, and Ay was succeeded by Horemheb, the 13th king. Horemheb's cooperative relationship with Abraham is recorded by Artapanus, who gave the pharaoh's name as Pharethothes. Artapanus claimed that Abraham lived for 20 years as a guest of the pharaoh in Egypt. Horemheb's long reign of 28 years makes him one of the few pharaohs with whom Abraham could remain as a guest for 20 years.

Artapanus in his *Jewish History* says that the Jews were called Ermiuth, which when interpreted after the Greek language means Judaeans, and that they were called Hebrews from Abraham. And he, they say, came with all his household into Egypt, to Pharethothes the king of the Egyptians, and taught him astrology; and after remaining there twenty years, removed back again into the regions of Syria: but that many of those who had come with him remained in Egypt because of the prosperity of the country.

Eusebius, *Preparation for the Gospel*, 9.18.1

Horemheb was succeeded by his vizier Ramesses I, the 14th king. Ramesses I reigned only briefly, but founded the royal family of the 19th dynasty. Hebraeus' 15th king, Setis, who was contemporary to Isaac, is then a match to the second pharaoh of the 19th dynasty, Sety I. Setis is a rare case in which a king's name as given by Hebraeus is a recognizable match to a king's name as translated by modern historians.

Next, consider the identity of Bar Hebraeus' 5th king of Assyria, who was also contemporary to Isaac. A useful source in this case is Eusebius' *Chronicle*. Eusebius quotes the earlier historian Castor in listing the names of Assyria's kings. The first two kings were Belus and Ninus, and the last Assyrian king was the other Ninus, who followed Sardanapallus. None of these names are recognizable on the Assyrian king list, but the last king of Assyria was Ashur-uballit II, who lost his kingdom to an alliance of Babylonians and Medes in 608 BC.<sup>29</sup>

[Castor states:] First we described the kings of the Assyrians starting with Belus, but since the length of his reign has not been passed down with certainty, we have merely recorded his name. We have begun the chronology with Ninus and ended it with the other Ninus who held the kingship after Sardanapallus.

Eusebius, *Chronicle*, "The Assyrian Chronicle"  
Translation from Armenian by Robert Bedrosian<sup>30</sup>

Since the last king of Assyria was Ashur-uballit II, and Castor's last king of Assyria was called the "other Ninus," as a first guess, Castor's earlier king Ninus would be Ashur-uballit I. In that case, the two kings of Assyria whom Castor calls Belus and Ninus were respectively Eriba-Adad I and Ashur-uballit I. Bar Hebraeus' list also began with

Belus and Ninus. Hebraeus' first five kings of Assyria are then Eriba-Adad I through Adad-nirari I, as shown in figure 6.

Middle Empire kings of Assyria		Kings of Assyria as numbered by Bar Hebraeus in <i>Chronography</i>
Eriba-Adad I	1380-1354	= 1st: Belus, died when Abraham was 15
Ashur-uballit I	1353-1318	= 2nd: Ninus
Enlil-nirari	1317-1308	
Arik-den-ili	1307-1296	
Adad-nirari I	1295-1264	= 5th: Aris, contemporary to Setis of Egypt

Figure 6: Bar Hebraeus' 1st, 2nd and 5th kings of Assyria aligned to the Assyrian low chronology of Amélie Kuhrt, *The Ancient Near East*, vol. I, (1995), p. 351.

Due to his recorded military conquests, Eriba-Adad's successor Ashur-uballit is generally considered the first king of Assyria's Middle Empire, but there is some evidence to support Eriba-Adad as the first king of this era. Following centuries of subjugation by Babylonia and Mitanni, Eriba-Adad was the first king to resume use of the title "appointee of Enlil," indicating that his authority came from the high god of the Mesopotamian pantheon, not from an earthly superior.<sup>31</sup> But nothing more was known of events during the reign of Eriba-Adad. Once again, Belus is a match to Eriba-Adad I, this time on the basis that Hebraeus identified Belus as Assyria's 1st king.

Hebraeus had a list of the kings of the Egyptian New Kingdom, and a list of the kings of the Assyrian Middle Empire. He correctly aligned and interwove these king lists with the Hebrew chronology. This is the type of ancient record that historians are supposed to read and correctly interpret. I am bewildered. There really should be no doubt about when Abraham lived.



## 6

### Abraham was tested by Sety I in 1293 BC

The renewal of the covenant came when Abraham was age 99 half-years, shortly before the destruction of Sodom and Gomorrah (Gen. 17-19). One can presume that Horemheb was traveling through Canaan with the Egyptian army to punish those who were not loyal to Egypt. Abraham, who was loyal, was given more land to rule after disloyal kings lost their land and probably their lives. Isaac was born soon after, when Abraham was age 100 half-years (Gen. 17:17). In the Bible, there is then an indefinite passage of time before Abraham was reportedly called upon by God to sacrifice his son Isaac:

Then God said, "Take your son, your only son, Isaac, whom you love, and go to the region of Moriah. Sacrifice him there as a burnt offering on one of the mountains I will tell you about."

Genesis 22:2

The chronology and political circumstances suggest that it was pharaoh Sety I, not a supernatural deity, who tested Abraham's loyalty. The name could have been changed later, just as I have proposed that Horemheb's name was later changed to Lord in records of his conversations with Abraham. The underlying historical record is that Abraham's loyalty to his *political lord*, the pharaoh, was being put to the test.

Abraham built an altar and arranged the wood upon it. He bound his son Isaac and laid him on the altar, on top of the wood. Then he reached out his hand and took the knife to slay his son. But the angel of the Lord called out to him from heaven..."Do not do anything to him. Now I know that you fear God, because you have not withheld from me your son, your only son."

Genesis 22:9-12

This test of loyalty is consistent with a new pharaoh demanding proof of Abraham's absolute obedience. The 'angel of the Lord' is an Egyptian official who called off the test. Once it was clear that Abraham would obey, it was better that Isaac could live and become the next vassal king serving Egypt. The exact date and corresponding pharaoh can be determined from the Book of Jasher's record that Isaac was age 37 half-years when Abraham was tested.

And the Lord said to Satan, What is thy word to me concerning all the children of the earth? and Satan answered the Lord and said, I have seen all the children of the earth who serve thee and remember thee when they require anything from thee... Hast thou seen Abraham the son of Terah... from the time of his son's birth till now, being thirty-seven years, he built no altar before thee, nor brought any offering to thee, for he saw that thou didst give what he requested before thee, and he therefore forsook thee.

Book of Jasher 22:48-51

Also in the quote above, it is implied that Abraham was in arrears on paying taxes to Egypt. Satan (an Egyptian official) had just toured the land, and reported back to the Lord (the new pharaoh) that Abraham hadn't been offering sacrifices since the birth of Isaac. The BC year is determined as follows: including 15 half-years from the year of the promise to the birth of Isaac (Abraham's life from age 85 to 100), the total time elapsed since the year of the promise was  $15 + 37 = 52$  half-years, which is  $52 \div 2 = 26$  years (figure 1, interval E). Therefore, Abraham was tested in  $1319 - 26 = 1293$  BC. This date is very close to the accession of a new pharaoh, Sety I. Though the Egyptian chronology is not known with certainty, 1293 BC is a plausible exact match to the year that Sety I conducted his year 1 campaign to reestablish Egyptian authority in Canaan.

It is known that Sety I became pharaoh in late spring or early summer, most likely on III Shemu 24 (June 1) of 1294 BC.<sup>32</sup> If that day and year are correct, from a stele at Beth-Shan, dated year 1, III Shemu 10 (11½ months later),<sup>33</sup> Sety was on the march in Canaan in the spring of 1293 BC. An inscription at Karnak states that in his 1st year Sety marched against the rebellious Shasu, who had gathered and were waiting on the mountain ranges of Khara (the Canaanite highlands). Their crime was that, "*They have no regard for the laws of the palace.*"<sup>34</sup> Abraham had witnessed the punishment for not being loyal to Egypt when the Lord (Horemheb) destroyed Sodom and Gomorrah. Both cities were burned. "*He looked down toward Sodom and Gomorrah... and he saw dense smoke rising from the land, like smoke from a furnace*" (Gen. 19:28). That was many years earlier. Now, as Abraham walked toward the mountain where he was to sacrifice Isaac, he saw what appears to be another city burning in the distance – a pillar of fire and a cloud of glory.

And on the third day Abraham lifted up his eyes and saw the place at a distance which God had told him of. And a pillar of fire appeared to him that reached from the earth to heaven, and a cloud of glory upon the mountain, and the glory of the Lord was seen in the cloud.

Book of Jasher 23:41-42

Though the record has been transformed into a supernatural apparition, the pillar of fire where Abraham expected to meet God could simply be the exaggerated record of a city in flames. From the cloud of glory in the distance, Abraham knew that he was getting closer to the army of Sety I on the march. This is one of the more tenuous synchronizations of the Hebrew chronology to external history, since one must presume the cloud is evidence of an Egyptian military campaign. But if it is, the test of Abraham is a confirmation of the date of Sety I's campaign in Canaan. Sety was without doubt capable of demanding human sacrifice. In the record of his campaign he proudly boasts, "*They were made into corpses throughout their valleys, stretched out in their own blood, like that which has never been.*"<sup>35</sup> Thus it appears that Abraham was tested when Sety I campaigned in Canaan. Abraham had no choice but to obey the pharaoh's command, or his corpse would lie among the others.

# 7

## Joseph was killed by Ramesses III in 1180 BC

Returning again to the numbered king lists of Bar Hebraeus, the 15th Egyptian king, Setis, is undoubtedly Sety I. At that point Hebraeus restarts the count, claiming that Setis was the first of four ‘shepherd kings’, and that it was “*that fourth Shepherd king*” who made Joseph ruler of Egypt. In this case Hebraeus cites his source as “*the histories of the Chaldeans*,” not the Hebrews. This explains how Hebraeus could identify a pharaoh who remains anonymous in all Hebrew accounts.

Setis; he reigned nineteen years. This was the first king of the four kings who were called ‘Shepherds’... And that fourth Shepherd king, Apapos, reigned in Egypt fourteen years. He it was who dreamed dreams and who made Joseph ruler, according to the histories of the Chaldeans...

Bar Hebraeus, *Chronography*, 1:43, 46

Hebraeus’ identification of four pharaohs as shepherd kings is reminiscent of Manetho’s claim that the Hyksos were called shepherd kings (*Against Apion*, I, 14). But Sety I was not a Hyksos king, nor even the founding king of a new dynasty. Nevertheless, there is reason to conclude that Hebraeus is correct to identify Sety I as a shepherd king, and there is a scientific means to test. DNA analysis of the mummies of Sety I, Ramesses II, Merneptah and Sety II should reveal that they were of non-African origin. Instead, the DNA of the 19th dynasty royal family should closely match that of the Jewish priestly class, or Cohenin. The Cohenin, presumably descended from Abraham, would also be of Kassite origin. DNA extraction and analysis for pharaohs of the 18th and 20th dynasties has already been announced.<sup>36</sup> There has been no news about the 19th dynasty.



Sety I

1294 – 1279 BC



Ramesses II

1279 – 1212 BC



Merneptah

1212 – 1200 BC



Sety II

1200 – 1194 BC

Figure 7: Bar Hebraeus’ four shepherd kings, beginning with the 15th king of Egypt, Setis, are a match to the four principle kings of the 19th dynasty. Sety II is the fourth shepherd king, who made Joseph ruler of Egypt.

Aside from being identified as shepherd kings by Hebraeus, the 19th dynasty pharaohs can also be traced to Kassite Babylonia on the basis of the Book of Jasher’s pharaoh Rikayon being a match to Horemheb (chapter 4). Rikayon arrived in Egypt from

Shinar (Kassite Babylonia). By that match, Horemheb was a Kassite. His vizier Paramessu was likely a fellow Kassite, and Paramessu became the founding king of the 19th dynasty, Ramesses I. An apparent inconsistency in this reasoning is that Horemheb or Ramesses I should then be called the first shepherd king, not Sety I. This can be explained if Horemheb and Ramesses I did not publicly announce that they were Kassites, since they were attempting to rule over an Egyptian population. In fact, in his coronation text, Horemheb claimed that his right to rule was proclaimed by the Egyptian god Horus.<sup>37</sup> But this only demonstrates that Horemheb was clever enough to choose an Egyptian god to proclaim his right to rule over Egyptians.

Sety I was more outspoken about his Kassite heritage, though the connection still hadn't been recognized. Sety built a summer palace at the former Hyksos capitol Avaris,<sup>38</sup> and declared his reign a "Repeating of Births" or Renaissance.<sup>39</sup> This term was used occasionally under Tutankhamun and Horemheb, but not as part of the regnal year name.<sup>40</sup> The Repeating of Births can be considered the renaissance of Kassite rule in Egypt, which began when Horemheb became Tutankhamun's regent. As discussed in the introduction, the term Repeating of Births would be used again in the late 20th dynasty, when vizier Nebmarenakht seized control of Egypt. This makes sense if Nebmarenakht was Moses, and Kassites had come to power for the third time in Egypt: first was the shepherd kings of the Hyksos era, second was the shepherd kings of the 19th dynasty, third was the late 20th dynasty Repeating of Births.

Sety I initiated a period of aggressive empire building that continued under his son Ramesses II, who would then be Hebraeus' second shepherd king. Ramesses II's son Merneptah would be the third shepherd king, and the fourth shepherd king, who made Joseph ruler of Egypt, would then match Merneptah's son Sety II. Bar Hebraeus' four shepherd kings are depicted in figure 7. Hebraeus' report that Joseph was made ruler of Egypt by the fourth shepherd king places Joseph's early career in the reigns of both Merneptah and Sety II. Though he never bore the title pharaoh, Joseph could have been made ruler of Egypt when Sety II designated Joseph as regent to the child prince Siptah, in the event that Sety II died before Siptah was old enough to rule. This is exactly what happened. Though he became the next pharaoh after Sety II, Siptah would not have counted as a fifth shepherd king because it was Joseph himself who was considered ruler of Egypt during the nominal reign of Siptah.

Sety II's appointment of Joseph as Siptah's regent is conjecture that becomes history only if there is a historical match to Joseph during the nominal reign of Siptah, and there is a match. Joseph is an exceptional match to a powerful Asiatic within Sety II's administration named chancellor Bay. Though Sety's widow was officially Siptah's regent, chancellor Bay is suspected of being the true ruler of Egypt. In short, exactly when a foreign ruler matching Joseph must rise to power in Egypt, chancellor Bay fits the profile. Therefore, Joseph is Bay.

When Sety II died, after a reign of almost six full years, his only son Saptah (1194-1188 BC), succeeded him... he was only a young boy who suffered from an atrophied leg caused by polio-myelitis; his stepmother, Tausret, therefore remained 'great royal wife' and acted as regent. She was not the only power behind the throne, however, for a powerful official called Bay, described as the 'chancellor of the entire land', who was himself a Syrian, appears to have been the true ruler of the country at this date. He is depicted several times with Saptah and Tausret and in some inscriptions he even claims that it was he who 'established the king on the throne of his father' an extraordinary phrase normally reserved for the gods.

*The Oxford History of Ancient Egypt*, (2003), p. 296.

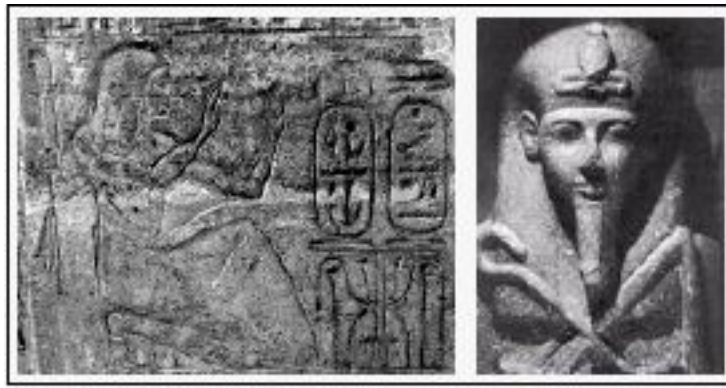


Figure 8: Chancellor Bay and pharaoh Siptah.

Chancellor Bay, a non-royal of Asiatic origin, was the true ruler of Egypt during the child pharaoh Siptah's nominal reign. This does not precisely synchronize the Hebrew chronology to Egyptian history, because Joseph's age is unknown when Sety II died and chancellor Bay (Joseph) became ruler of Egypt. However, this synchronization can be further refined by going forward to the year of Joseph's death. There is a record of when chancellor Bay died. That record can be compared to the year that Joseph died, as recorded on the Jubilees calendar. Joseph's death is reported to have occurred in the 46th jubilee, 6th week, 2nd half-year.

Joseph died in the forty-sixth jubilee, in the sixth week, in the second year, and they buried him in the land of Egypt....

Book of Jubilees 46:8

The time elapsed on the Jubilees calendar from Jacob's funeral in 1207 BC forward to the death of Joseph is determined by subtraction as before:

46th jubilee, 6th week, 2nd half-year = death of Joseph  
45th jubilee, 5th week, 4th half-year = death of Jacob (1207 BC)  
 1 jubilee + 0 weeks + 5 = difference in half-years  
 $(1 \times 49) + (0 \times 7) + 5 = 54 \text{ half-years} \div 2 = 27 \text{ years}$

This calculation can be checked via another record in a different format, preserved by Alexander Polyhistor. The arithmetic takes some effort, but agrees exactly with the Book of Jubilees.

"Levi... begat Kohath; and in the same year in which Kohath was born Jacob died in Egypt, after he had blessed the sons of Joseph, being himself one hundred and forty-seven years old and leaving Joseph fifty-six years old... and when Kohath was forty years old he begat Amram, who was fourteen years old when Joseph died in Egypt being a hundred and ten years old..."

...These statements I quote from the work of Alexander Polyhistor.

Eusebius, *Preparation for the Gospel*, 9.21.19

From the above quote, Joseph was 56 when Jacob died, and Joseph died at 110. The difference is  $110 - 56 = 54$  half-years or 27 years. That's one confirmation of the time interval recorded in the Book of Jubilees. Then there is another: Jacob died when Kohath was born. Kohath was 40 when Amram (the father of Moses) was born, and Amram was 14 when Joseph died. By that route, Joseph died  $40 + 14 = 54$  half-years after Jacob died. Once again Joseph died  $54 \div 2 = 27$  years after Jacob died. Thus there are three separate routes forward from the death of Jacob to the death of Joseph. By all three routes Joseph

died 27 years after Jacob died (figure 1, interval F). Counted from Jacob's death in 1207 BC, the corresponding year of Joseph's death is  $1207 - 27 = 1180$  BC.

That's the year that Joseph died. Next consider how Joseph died. He died relatively young, at  $110 \div 2 = 55$  years old. He was with his brothers and he saw his death coming. *"Then Joseph said to his brothers, 'I am about to die. But God will surely come to your aid and take you out of this land to the land he promised...'"* (Gen. 50:24). Like Abraham, it can be presumed that Joseph was a military man. There is also a flashback to Joseph being in combat among the last words of Jacob. *"Joseph... with bitterness archers attacked him; they shot at him with hostility, but his bow remained steady..."* (Gen. 49:22-24). When a military man has time for a few last words before his untimely death, he has probably been mortally wounded or has been captured and will face execution. One can presume that Joseph died when he and his brothers were defeated in battle.

Joseph's death in 1180 BC falls in the 5th year of Ramesses III (1184-1153),<sup>41</sup> who was the second pharaoh of the 20th dynasty. The 20th dynasty was founded by Sethnakhte but he reigned only four years, perhaps part of that time as a coregent. The death of Sethnakhte and rise to power of a strong new king, Ramesses III, is the best chronological match to the quote below from the Book of Jubilees. Shortly before Joseph's death a pharaoh had been killed by the king of Canaan while at war in Assyria. This suggests that the king of Canaan had become a vassal to Assyria. This is of great historical significance, and may explain how iron, a technology that Egypt did not possess, was introduced to Canaan. After Joseph, neither Hebrews nor Egypt ruled in Canaan. The Egyptian empire was falling to Assyria.

And Joseph died being a hundred and ten years old... And he commanded the children of Israel before he died that they should carry his bones with them when they went forth from the land of Egypt... for he knew that the Egyptians would not again bring forth and bury him in the land of Canaan, for Makamaron, king of Canaan, while dwelling in the land of Assyria, fought in the valley with the king of Egypt and slew him there, and pursued after the Egyptians to the gates of Ermon. But he was not able to enter, for another, a new king, had become king of Egypt...and the gates of Egypt were closed, and none went out and none came into Egypt.

Book of Jubilees 46:3-7

The transition from the 19th to 20th dynasty is shrouded in mystery. The 19th dynasty royal family died out with the child pharaoh Siptah, who was succeeded by Siptah's regent, queen Tausret. Her tomb was usurped and plastered over with images of Sethnakhte, who died before his own tomb was completed. Ramesses III completed construction of his father Sethnakhte's tomb and used it for his own.<sup>42</sup> Neither the mummy of Sethnakhte nor Tausret has been found, though the mummies of Siptah and Ramesses III were discovered in Thebes. This can be explained as follows. Royal tombs, by tradition, were in the 18th dynasty capitol Thebes, but the 19th dynasty was ruled from the northern city of Pi-Ramesse (biblical Rameses) in the Nile delta. Siptah likely died and was buried in Thebes by Tausret and Bay, but Tausret was either disinterred, or was never buried in Thebes because Sethnakhte, a rival, had captured the south in a civil war that ushered in the 20th dynasty. Sethnakhte (according to the Book of Jubilees) was then killed in Assyria, and was succeeded by his son Ramesses III.

As all of this happened, Joseph, an ally of the 19th dynasty pharaohs, was still alive. Where was Joseph during the early years of the 20th dynasty? He must have been in the Nile delta with his allies, who had not yet been defeated by Sethnakhte or Ramesses III. In his 5th year, Ramesses III fought a war against enemies identified as the Peleset and

the Thekel of the northern countries. The record of this battle, from an inscription at Medinet Habu, is translated below. The enemy leaders were carried off and/or slain.

*Great inscription in the second court at Medinet Habu, (Ramesses III's war of Year 5)*

The northern countries are unquiet in their limbs, even the Peleset, the Thekel, who devastate their land. Their soul came in the last extremity. They were warriors upon land, also in the sea. Those who came on [land] — — — Amon Re was behind them, destroying them; those who entered into the river mouths, creeping into the net, made — — — — — their arms. Their hearts fluttered, (so) transported (that) they were no longer in their bodies. Their leaders were carried off, slain, thrown prostrate. They were made captives — — — — . . . . .

J. H. Breasted, *Ancient Records of Egypt*, vol. 4, (1906), pp. 24-25.

Neither the Peleset nor the Thekel had been attested as enemies of Egypt prior to the 20th dynasty.<sup>43</sup> This makes it possible that they were not enemies of Bay and Tausret, only of the 20th dynasty pharaohs Sethnakhte and Ramesses III. This possibility is further supported by evidence from a military cemetery at Beth Shan, in which a cluster of similarly fashioned clay coffins are ornamented with both the feathered headdresses characteristic of the Peleset, and on two coffins, with a stylized lotus flower frequently found on Egyptian coffins.<sup>44</sup> Beth Shan is also the site of monuments to 19th dynasty pharaohs Sety I and Ramesses II.<sup>45</sup> The coffins at Beth Shan could be interpreted as those of a 19th dynasty Egyptian garrison, when Peleset were part of the Egyptian military.

Joseph's death in 1180 matches the 5th year of Ramesses III, when Ramesses III killed the leaders of the Peleset and the Thekel. Joseph could have been leading 19th dynasty loyalists in an ongoing civil war against Ramesses III. Additionally, Peleset is the Egyptian word for the biblical Philistines,<sup>46</sup> who in the biblical record, are first attested when Abraham complained to Abimelech, the king of Gerar, about a well that Abimelech's servants had seized. The conflict was resolved with a treaty at Beersheba. "After the treaty had been made at Beersheba, Abimelech and Phicol the commander of his forces returned to the land of the Philistines" (Gen. 21:32). The location of the land of the Philistines is not defined. One might presume Gerar, because Abimelech was king of Gerar, but later "Abraham stayed in the land of the Philistines for a long time" (Gen. 21:34). Abraham's long stay in the land of the Philistines is similar to the claim by Artapanus that Abraham stayed with the king of the Egyptians in Egypt for twenty years (chapter 5). That parallelism suggests that the land of the Philistines was Egypt.

The Bible never mentions that Abraham was allied with Egypt, thus the Philistines could be the ethnic name for the Hebrew-friendly pharaohs of 19th dynasty Egypt. But in that case, the Philistine pharaohs would also be shepherd kings, as claimed by Hebraeus, and thus Kassites. The Philistine connection to the Kassites is found in the biblical Table of Nations. Here one must presume that the historical Noah was an early Kassite, and that the flood was limited to his Mesopotamian homeland. The Philistines were descended from Noah (Gen. 10:14) and thus were distant relatives of the Kassite Hebrews.

The working model, then, is that when Ramesses III fought the Peleset (Philistines) in his 5th year, he was at war with the last remnants of the 19th dynasty Kassite regime... Joseph included. Later, the Philistines were enemies of the Israelites, but that can be explained because the political circumstances had changed. The Israelites and the Philistines had both fallen from power in Egypt. They then fought each other for land to rule in Canaan.

Joseph, as a foreign ruler of Egypt who did not claim the title pharaoh, is a match to chancellor Bay, but that requires that Bay died in the 5th year of Ramesses III. Bay was thought to have died during the reign of Siptah, since no attestations explicitly beyond the

reign of Siptah have been found. But it was not known to Egyptologists that Bay was Joseph, nor that Joseph died in 1180 BC. A record of Bay's death survives, but does not name the pharaoh. The record is an announcement on a clay ostrakon that had been discarded in the royal cemetery in Thebes. The original translation is to French, and since English paraphrase sometimes includes words that aren't there, below is the original translation to French, followed by a translation from the French to English.

O. Ifao 1864 Recto

An 5, troisieme moise de chémou, le 27. Ce jour, le scribe de la Tombe Paser est venu annoncer: <<Pharaon VSF a tué le grande ennemi Bay.>>

Year 5, III Shemu 27. On this day, the scribe of the tomb Paser came announcing: Pharaoh 'life, prosperity and health!' has killed the great enemy Bay.

Pierre Grandet, *Le Bulletin de l'Institut français d'archéologie orientale*, (BIAFO) 100, (2000) p. 341.

The announcement of Bay's death gives the month, day, and year, but not the pharaoh. To match the death of Joseph, the pharaoh has to be Ramesses III. Then the date is May 6, 1180 BC (and Ramesses III is confirmed to have become pharaoh in 1184 BC). The identification of Joseph as Bay then confirms the suspicion that Ramesses III killed Joseph during his year 5 war against the Peleset. He either killed Bay on the battlefield, or captured Bay and ordered his execution. Then Ramesses III sent a message back to Thebes: "I've killed the great enemy Bay." That's the end of Joseph, whose last words were an appeal to be buried somewhere else.

And Joseph made the sons of Israel swear an oath and said, "God will surely come to your aid, and then you must carry my bones from this place."

Genesis 50:25

When Ramesses III killed Joseph, an era of Egyptian and Hebrew alliance came to an end. This era is summarized in figure 9 (below). The exact lifetimes of Abraham, Isaac, Jacob and Joseph are shown, along with their contemporary pharaohs. To review, the year of the promise was early in the reign of Horemheb. At this time Horemheb granted Abraham authority to rule as Egypt's vassal king in Canaan. Abraham's son Isaac was born during the reign of Horemheb, and shortly after Horemheb's death Abraham's loyalty was tested by Sety I. Much less is recorded about Isaac. There is an indication of tension between Isaac and the Philistine king Abimelech (a 19th dynasty royal), "*Then Abimelech said to Isaac, 'Move away from us, you have become too powerful for us'*" (Gen. 26:16), but this conflict did not lead to war. One can presume that Isaac maintained the vassal relationship through the reign of Sety I and Ramesses II.

The name Israel did not have meaning prior to the adult life of Isaac's son Jacob, who was renamed Israel after eleven of his twelve sons had been born (Gen. 32:22-28). As with Abram's name change to Abraham (Gen. 17:5), Jacob had likely been renamed Israel by the pharaoh upon elevation to a higher political rank. The victory stele of pharaoh Merneptah records that shortly before Jacob died in 1207, Merneptah had crushed a rebellion by the people of Israel. This would be a rebellion among the Canaanites ruled by Jacob/Israel, not a rebellion by Jacob himself. Jacob surely remained loyal, since "*All the pharaoh's officials accompanied him...*" (Gen. 50:7) when his body was taken to Canaan for burial. It is significant that the name Israel on Merneptah's victory stele did not refer to an ethnic group called Israel. There was no such ethnic group when Israel himself had only a few dozen descendants. Merneptah had simply fought



Canaanites and perhaps some of Jacob/Israel's adult sons, who had rebelled against Jacob, an Egyptian loyalist.

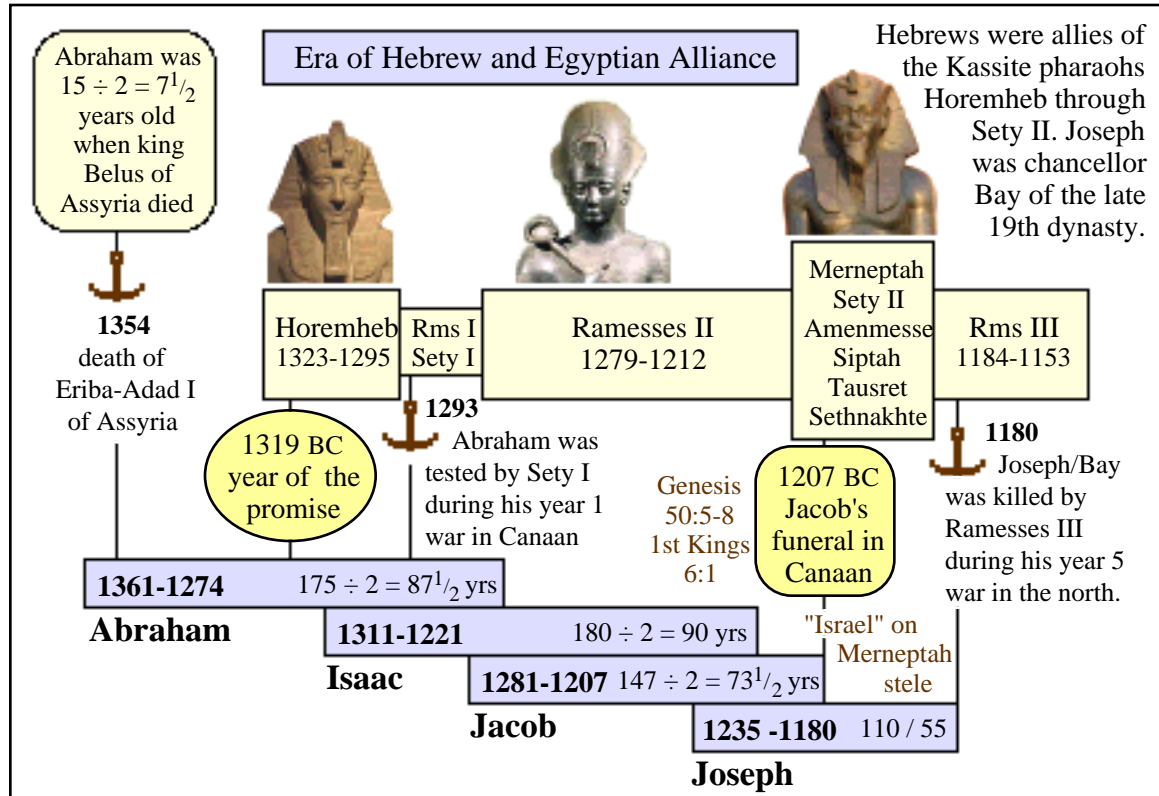


Figure 9: Abraham through Joseph and the pharaohs of Egypt. Abraham and his descendants ruled within the Egyptian territory of Canaan in cooperation with Horemheb and subsequent shepherd kings (Kassite pharaohs) of the 19th dynasty. Joseph (chancellor Bay) was killed by the 20th dynasty pharaoh Ramesses III, bringing Hebrew rule in Canaan to a close until Joshua reconquered Canaan during the late 20th dynasty.

Joseph became ruler of Egypt after pharaoh Sety II died. Joseph ruled as chancellor through the reigns of Siptah and queen Tausret. To what extent they shared power is unknown. During or soon after the reign of Tausret, civil war broke out, leading to Sethnakhte's rise to power in the south. Sethnakhte was succeeded by his son Ramesses III, who killed Joseph in the north.

The Book of Genesis closes with the death of Joseph and the Book of Exodus opens with the birth of Moses, who was the great grandson of Joseph's brother Levi. A direct Egyptian reference to Levi is found in the name Levi-El, which is attested at Medinet Habu on a list of geographical names borne by captives taken by Ramesses III in a Syrian war, possibly in his year 11.<sup>47</sup> Just six years after Joseph's death, Levi would likely still be alive, and to have a city or region bearing his name suggests that he ruled over territory in Canaan, at least until Ramesses III attacked that region.

The Great Harris Papyrus reports that in the early years of his reign, Ramesses III also took captives from the land of Seir,<sup>48</sup> Jacob's brother Esau is described as "*the father of the Edomites in the hill country of Seir*" (Gen. 36:9), and his sons and grandsons are named as chiefs in Edom (Gen. 36:15-19). These sons and grandsons would have been contemporary to Ramesses III, but thereafter Edom was ruled by kings unrelated to Esau.

Thus one can presume that Ramesses III fought in both Levi-El and Edom to claim lands ruled by Abraham's descendants, who were no longer loyal to Egypt. The family of Esau ceased to rule after Ramesses III conquered Seir. At about the same time, the sons and grandsons of Jacob were politically oppressed in Egypt.

At the close of the Book of Genesis, there is an unrecognized bifurcation. To fit within the chronological framework of Egyptian history, the Book of Genesis should be followed not just by the Book of Exodus, but also by chapters 3-9 of the Book of Judges (Othniel through the judge named Abimelech). These would be judges who ruled in Canaan while the Israelites (ruling class descendants of Jacob) were politically oppressed in Egypt. This provides a reason for the judges – they were vassal rulers in Canaan appointed by 20th dynasty pharaohs, specifically because Hebrews were not allowed to rule. Archaeologically, there was a continuous presence of what is now called Israelite culture, but during the 20th dynasty, the true descendants of Israel were in Egypt.

Two contemporaries of Moses, Nahshon and Jair, are especially relevant for placing the period of judges in parallel with the oppression in Egypt. Nahshon was a sixth generation descendant of Jacob/Israel through Judah and Hezron: Jacob → Judah → Perez → Hezron → Ram → Amminadab → Nahshon (1 Chr. 2:1-10), and Jair was another great grandson of Hezron: Hezron → Caleb → Segub → Jair, (1 Chr. 2:21-22). Nahshon and Jair were both secondary leaders on the Exodus. As the Exodus departed Egypt, Nahshon is listed as the leader of the people of Judah (Num. 2:3, 1 Chr. 2:10), and as the Exodus drew to a close, Jair conquered the trans-Jordan settlements of Gilead, renaming the region Havvoth Jair (Num. 33:39-41). Jair is also listed in the Book of Judges as a judge whose sons ruled Havvoth Jair (Ju. 10:3-5).

Jair's appearance in chapter 10 of the Book of Judges marks the arrival of the Exodus from Egypt. There is no reason to presume that Jair is misplaced. No mention of the spectacular ark of God, or its Levite caretakers, appears earlier in the Book of Judges. This is an inexplicable absence of the centerpiece of the Exodus narrative – unless the Exodus had not yet arrived. Nahshon is significant because he was the sixth generation after Jacob, and there would be six more generations to king Solomon: Nahshon → Salmon → Boaz → Obed → Jesse → David → Solomon (Ruth 4:20-22, 1 Chr. 2:10-15). This places the Exodus roughly midway between the death of Jacob in 1207 and the construction of Solomon's temple in 967. By that crude estimate, the Exodus would be in c.1087, and the pharaoh of the Exodus would be the last pharaoh of the 20th dynasty, Ramesses XI (1104-1075). The test of this estimate requires zeroing in on the exact lifetime of Moses. In this instance the chronological records are not as consistent as they are for Abraham through Joseph.

An Exodus in the late 20th dynasty requires that the first two chapters of the Book of Judges are misleading. References to Joshua's death (Ju. 1:1, 2:8) and to Moses in the past tense (Ju. 1:16) are either misplaced or deliberately false. In either case, one is led to believe that the Exodus from Egypt and the conquest of Canaan by Joshua had already occurred. This appears to be political propaganda of the Solomon era. The history of the period of judges was most likely revised when David pronounced Solomon king, (1 Chr. 23:1) followed by the appointment of Levite priests to minister in the planned temple. "*David separated them into divisions for their appointed order of ministering*" (1 Chr. 24:3). These priests were employees of the king, and certainly their employment was contingent upon teaching scripture approved by the king.

The confused account of the Bible can be attributed to nation-building propaganda, in which Levite scripture taught the king's version of history. Following the Exodus, land in Canaan that had been ruled by judges was conquered by the Hebrew/Israelite ruling class

(Jair, Joshua, and other descendants of Jacob). Commoners of the Canaanite highlands who had been ruled by judges prior to the Exodus would not have considered themselves Israelites. It appears that Solomon's priests taught that these lands had been part of an Israelite nation even when ruled by judges. To do so, they placed the Book of Judges after the Book of Joshua, and then wrote a transition that claimed the entire period of judges followed the Exodus. This was a hard sell, because the religion of those ruled by judges didn't match that of Moses. This was explained (in Solomon's propaganda) by claiming that descendants of those who arrived on the Exodus had gone astray and worshipped other gods. "*They forsook the Lord, the God of their fathers, who had brought them out of Egypt*" (Ju. 2:12). That passage is a deliberate deception. The Exodus from Egypt had not yet occurred.

## 8

### Moses was born during a smallpox epidemic in 1144 BC

The next chronological challenge is to determine the exact lifetime of Moses. Once again there is much more evidence outside of the Bible than within. The Book of Exodus opens with the claim that Joseph and all of his generation had died before Moses was born, but it doesn't say how much time had elapsed, only that a new king had come to power in Egypt. Since Joseph has been matched to chancellor Bay, and his death placed within the reign of Ramesses III, that would place the birth of Moses no earlier than the reign of Ramesses IV (1153-1157). Here one must set aside a common misconception that in Exodus 1:8, Ramesses II was the pharaoh who forced Israelite slaves to build Pithom and Rameses. It is true that Ramesses II founded the city Pi-Ramesse, which is certainly biblical Rameses. However, the word translated as 'built' in Exodus 1:8, need not imply initial construction. At any time after the reign of Ramesses II, Israelites could have *labored* at the existing city of Rameses.

Ramesses II was actually contemporary to Isaac and Jacob (figure 9). Jacob lived four generations prior to Moses: Jacob → Levi → Kohath → Amram → Moses. The Bible records the generations, but not the age of each father when his son was born. Thus the year that Moses was born cannot be counted forward from the exactly known lifetime of Jacob. This chronological impasse can be circumvented via evaluation of several non-biblical sources. Consider first the record of Alexander Polyhistor, as quoted by Eusebius. Polyhistor reported that when Joseph died, Amram, the father of Moses was already age 14 half-years, and that Amram was age 78 half-years when Moses was born.

...when Kohath was forty years old he begat Amram, who was fourteen years old when Joseph died in Egypt...Amram took to wife his uncle's daughter Jochabet, and when he was seventy-five years old begat Aaron and Moses; but when he begat Moses Amram was seventy-eight years old...

Eusebius, *Preparation for the Gospel*, IX, 21:19

From the above quote, Moses was born  $78 - 14 = 64$  half-years after Joseph died. The corresponding date is  $64 \div 2 = 32$  years after 1180, which is  $1180 - 32 = 1148$  BC. Separately, Bar Hebraeus gives Amram's age as 75 half-years when Moses was born, (not 78) but also gives the date that Moses was born counted forward from the year of the promise.

After Kohath came Amram his son, he was seventy-five years old when he begot Moses in the three hundred and fiftieth year of the promise.

Bar Hebraeus, *Chronography* 1:48

Counted from, the year of the promise in 1319, the BC date that Moses was born would be  $350 \div 2 = 175$  years later (figure 1, interval G), which is  $1319 - 175 = 1144$  BC. There is a discrepancy of four years in comparison with Polyhistor, probably due to a copying

error in at least one of the records. A third route is the Book of Jubilees, which also includes a significant detail not found in the Bible – between the death of Joseph and the birth of Moses, the pharaoh had gone to war against the king of Canaan and been driven back. The king of Canaan had closed the gates of Egypt from the outside.

And the king of Egypt went forth to war with the king of Canaan... and the children of Israel brought forth all the bones of the children of Jacob save the bones of Joseph, and they buried them in the double cave in the mountain. And most of them returned to Egypt, but a few of them remained in the mountains of Hebron, and Amram, thy father remained with them. And the king of Canaan was victorious over the king of Egypt, and he closed the gates of Egypt.

Book of Jubilees 46:9-11

The Book of Jubilees is describing the decline of the Egyptian empire during the 20th dynasty. Egypt's war with Canaan provides an explanation for the oppression of the Israelites in Egypt. Joseph's brothers and their descendants were still politically powerful and could rally soldiers to fight for or against a pharaoh. The decision to rebury their dead in Canaan indicates that the Israelites anticipated civil war within Egypt. They didn't want their ancestors tombs desecrated if they had to flee. Moses was born into this tense political climate shortly after his father had returned from Canaan.

... thy father went forth from the land of Canaan, and thou wast born in the fourth week, in the sixth year thereof, in the forty-eighth jubilee; this was a time of tribulation on the children of Israel. And pharaoh, king of Egypt, issued a command regarding them that they should cast all their male children into the river.

Book of Jubilees 47:1-2

The jubilees calendar date for the birth of Moses is the 48th jubilee, 4th week, 6th half-year. Counted from the death of Jacob in 1207, the BC date is as follows:

48th jubilee, 4th week, 6th half-year  $\Leftrightarrow$  Joseph died in Egypt

46th jubilee, 6th week, 2nd half-year  $\Leftrightarrow$  Jacob died in Egypt (1207 BC)

1 jubilee + 5 weeks + 4 = difference in half-years

$(1 \times 49) + (5 \times 7) + 4 = 88 \text{ half-years} \div 2 = 44 \text{ years}$

By the jubilees calendar Moses was born in  $1207 - 44 = 1163$  BC, but this is eight years later than the date derived from the records of Hebraeus, or twelve years later than the date derived from Polyhistor. Hebrew chronological records are not always accurate, and this is an important example. By three different methods, Moses was born in 1148, 1144 or 1136. These three dates are relatively close together, making a large error unlikely, but they fall within a chaotic period when the reigns of Egypt's pharaohs were brief. Using the chronology of *The Oxford History of Ancient Egypt*, there are four possible choices for the pharaoh when Moses was born:

If Moses was born in 1148, the pharaoh was Ramesses IV (1153-1147);

if Moses was born in 1144, the pharaoh was Ramesses V (1147-1143);

if Moses was born in 1136, the pharaoh was either Ramesses VI (1143-1136)

or possibly Ramesses VII (1136-1129).

The choices can be narrowed via a clue from the story of the pharaoh's daughter discovering Moses in a basket amid the reeds of the Nile. The story itself is suspect, since a pharaoh's daughter is unlikely to adopt a child found at random, but there is a plausible explanation for Moses being raised in the pharaoh's household. In a record from the sixth

Asiatic campaign of Tuthmose III, it is reported, “*Now the children of the princes and their brothers were brought to be hostages in Egypt.*”<sup>49</sup> These hostages later replaced their fathers as rulers. Though Tuthmose was an 18th dynasty pharaoh, the practice of taking the sons of conquered rulers as hostages may have been common. Moses was a descendent of Levi, who likely ruled Levi-El, in Canaan. Levi’s grandson Amram, the father of Moses, may have remained politically powerful. Therefore Moses was taken hostage in the pharaoh’s household, to insure that his father Amram would not lead an Israelite rebellion, and to provide Moses with an Egyptian upbringing. Thus the central claim of the baby in the basket story is suspect, but some details could still be part of an originally truthful record of how Amram’s son was raised as a hostage.

In the *Targum of Palestine*, an Aramaic translation of the Pentateuch with additional commentary, there is a detail added to the baby in a basket story that is both specific and potentially historical. At the time that Moses was born, the land of Egypt (Mizraim) was afflicted with a disease that caused “*a burning sore and inflammation of the flesh.*”

And the Word of the Lord sent forth a burning sore and inflammation of the flesh upon the land of Mizraim; and the daughter of Pharaoh came down to refresh herself at the river. And her handmaids, walking upon the bank of the river, saw the ark among the reeds, and put forth the arm and took it, and were immediately healed of the burning and inflammation.

Exodus 2:5, *Targum of Palestine*, J. W. Etheridge translation

Since the land of Egypt was afflicted, not just a few individuals, an epidemic is likely. The Book of Jasher adds a similar claim to the story of Moses being discovered by the pharaoh’s daughter, mentioning “*a terrible heat in the land of Egypt, which burned up the flesh.*”

And God sent forth at that time a terrible heat in the land of Egypt, which burned up the flesh of man like the sun in his circuit, and it greatly oppressed the Egyptians. And all the Egyptians went down to bathe in the river, on account of the consuming heat which burned up their flesh.

Book of Jasher 68:15-16

A burning heat could be either a heat wave or a fever. However, it was “*like the sun,*” therefore it was not the sun, and must be a fever. Thus somewhere among the pharaohs Ramesses IV through Ramesses VII, Egypt must have suffered an epidemic characterized by burning sores and high fever, plus the country was on the brink of civil war, with the Hebrews unsure if they should stay or flee (it would depend upon which side was winning). That is when Moses was born. The *Encyclopedia of Ancient Egypt* reports a match – a smallpox epidemic struck Egypt during the reign of Ramesses V when Egypt was also in a period of political unrest.

Ramesses V’s reign was troubled by a lethal epidemic of smallpox and by conditions approaching a civil war. As many as six members of the royal family died of smallpox, and Ramesses V’s mummy carries scars from the disease. He may have died of smallpox or been a victim of the political unrest of the period. The fragmentary hieratic papyrus of Turin indicates that he was buried in year two of his successor, Ramesses VI... His head also displays a major wound, inflicted before or shortly after his death, adding to the mystery.

Margaret Bunson, *Encyclopedia of Ancient Egypt*, (2009), p. 337.

Smallpox is a disease that causes both high fever, as described in the Book of Jasher, and painful burning sores, as described in the Targum of Palestine. As shown in figure 10, the scars of smallpox blisters are still visible on the face of Ramesses V,

thus a match to Egyptian history is confirmed. Moses was born during the reign of Ramesses V. Bar Hebraeus' record that Moses was born in the 350th half-year of the promise (1144 BC) is either correct or close enough to match the correct pharaoh. Also, Ramesses V lost the war, meaning that the oppression likely ended when Ramesses VI came to power. The Hebrews were not always the enemy while in Egypt. The political dynamic was much more complicated than the very brief account in the Book of Exodus.

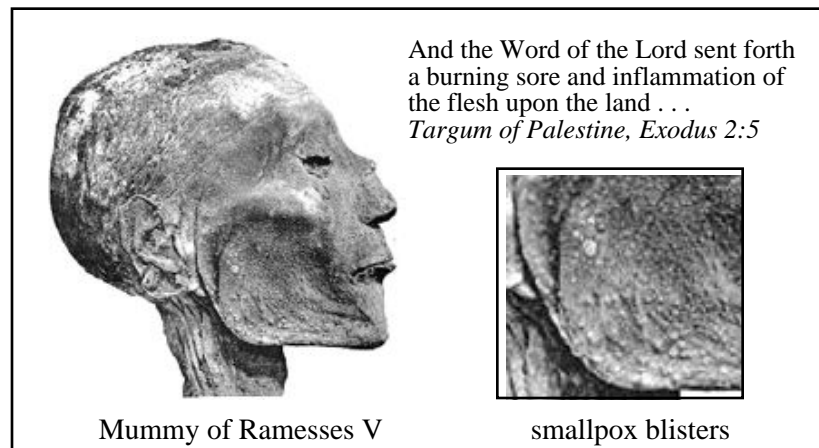


Figure 10: The mummy of Ramesses V, evidence of a smallpox epidemic in Egypt.

Counted from the death of Jacob in 1207 BC, the Book of Jubilees calendar has been accurate to the year from Noah's flood in 1647 BC to the death of Joseph in 1180 BC, but in this case the Jubilees calendar appears to have placed the birth of Moses eight years too late, 1136 BC instead of 1144 BC. Thus there is a probable error in the count between Joseph's death and the birth of Moses. This region should be avoided when comparing one Jubilees calendar date to another in search of the BC year of the Exodus. That topic is next.

## 9

### Moses fled to Midian in year 4 of Tiglath-pileser I

After the birth of Moses in the reign of Ramesses V, the next identifiable point in the Hebrew chronology is the year that Moses fled to Midian. This happened early in the adult life of Moses, before he led the Israelites on the Exodus. The Book of Exodus doesn't name the pharaoh when Moses fled to Midian, but Artapanus calls this pharaoh Chenephres. The following quote shows that Moses became a competent administrator high in the Egyptian government. This passage reveals once again that the Hebrews were men of power – one can oppress them or work with them. Ramesses V chose to oppress the Hebrews. Chenephres chose to work with Moses.

And this Moses, they said... divided the State into thirty-six Nomes, and. appointed the god to be worshipped by each Nome, and the sacred writing for the priests, and their gods were cats, and dogs, and ibises: he also apportioned an especial district for the priests. All these things he did for the sake of keeping the sovereignty firm and safe for Chenephres.

*Preparation for the Gospel IX, 27:4-5*

Next, Artapanus discloses the political climate in Egypt both before and after Moses helped Chenephres reorganize the government.

For previously the multitudes, being under no order, now expelled and now set up kings, often the same persons, but sometimes others. For these reasons then Moses was beloved by the multitudes, and being deemed by the priests worthy to be honoured like a god, was named Hermes, because of his interpretation of the Hieroglyphics.

*Preparation for the Gospel IX, 27:5-6*

Chenephres reigned following a period when there was no order in Egypt, with short reigning kings who were set up and fell like dominoes. Only with the help of Moses was order restored, “*keeping the sovereignty firm and safe for Chenephres.*” Compare this with a description of Egypt during the reigns of Ramesses IV through Ramesses VIII.

In quick succession these feeble Ramessids now followed each other; after a few years a collateral line of the family gained the throne in the person of a usurper, probably a grandson of Ramses III, who became Rameses VI, having succeeded in supplanting the son of Ramses V. The seventh and eighth Ramses quickly followed. They all excavated tombs in the Valley of the Kings, but we know nothing of their deeds. Now and again the obscurity lifts, and we catch fleeting glimpses of a great state tottering to its fall.

James Henry Breasted, *A History of Egypt*, (1912), p. 507.

On the basis of the chaos in Egypt during the reigns of Ramesses IV through Ramesses VIII, Chenephres is a match to Ramesses IX (1125-1107). His 18-year reign brought stability to Egyptian government after decades of civil war and declining power abroad. Moses helped Ramesses IX govern effectively, but ultimately Moses was too competent, and was becoming too popular – thus a threat to the power of the pharaoh. At



that point Chenephres plotted to kill Moses. Being forewarned, Moses fled into exile in Midian (Arabia).

But when Chenephres perceived the excellence of Moses he envied him, and sought to slay him on some plausible pretext... Then Aaron the brother of Moses, having learned about the plot, advised his brother to flee into Arabia... So he made his escape into Arabia, and lived with Raguel the ruler of the district, having married his daughter.

*Preparation for the Gospel, IX, 27:7, 17-19*

The Book of Jasher reports that Moses was age 66 half-years when he fled to Midian. Once again there are historical details not found in the Bible. Moses had been reigning in the land of Cush, meaning that he was the administrator of Kush, the Egyptian-held territory south of Egypt. As ruler of Cush, Moses was serving the pharaoh, but now he was apparently being replaced. Fearing the pharaoh, Moses fled to Midian.

So Moses went forth from the land of Cush, and went home and ceased to reign over Cush, and Moses was sixty-six years old when he went out of the land of Cush... So Moses went to Midian, for he was afraid to return to Egypt on account of Pharaoh...

*Book of Jasher 76:12-13*

Moses fled to Midian at age  $66 \div 2 = 33$  years old. Counted from the 350th half-year of the promise (figure 1, interval H), the date was  $1144 - 33 = 1111$  BC. The Book of Jasher's record of how old Moses was when he fled to Midian identifies Chenephres once again as Ramesses IX (1125-1107). Confirmation of that date and pharaoh is found in the record of Bar Hebraeus, who reports that the following significant events occurred at the time that Moses fled to Midian.

And at this time a flood took place, the third, in Thessally in the days of Dokalyon (Deucalion); and a great conflagration in Kush in the days of Paraton; and the famous war of the Chaldeans with the Phoenicians...

*Bar Hebraeus, Chronography 1:50-51*

Neither a flood in Thessally nor a great fire in Kush is specific enough to pinpoint in history, but a "*famous war of the Chaldeans with the Phoenicians*" is promising. Phoenicia, along the Mediterranean coast, was a part of Egypt's empire in Canaan. Only after Egypt's withdrawal from the region could a more distant aggressor move in. That distant aggressor matches Assyrian king Tiglath-pileser I (1114-1076), who is known to have collected tribute from the Phoenician cities Biblos, Sidon and Arvad. An unnamed Egyptian pharaoh not only allowed this to happen, he even sent a gift of friendship (or appeasement).

Tiglath-pileser ... The first Assyrian king to venture across the Lebanon in force was brought gifts by the neighbouring rulers of Byblos and Sidon, while the Egyptian king sent him a crocodile as a present... Thus by the end of his fifth regnal year Tiglath-pileser was able to boast of his conquest of forty-two lands and their rulers...

*The Cambridge Ancient History, vol. II, chap. 31, (1975), pp. 460-61.*

Tiglath-pileser's reign is known exactly from the Assyrian chronology, and his Phoenician campaign is recorded on an octagonal prism now in the Berlin Pergamonmuseum. This rare Assyrian campaign to the Mediterranean coast was in Tiglath-pileser's 4th regnal year, 1111 BC.<sup>50</sup> Though Hebraeus did not report Moses' age when he fled to Midian, he provided enough information to confirm that 33 years as recorded in the Book of Jasher is accurate. Hebraeus has thus synchronized the Hebrew

chronology to the Assyrian chronology twice, first when Eriba-Adad I died, and again in the year of Tiglath-pileser's Phoenician campaign.

By comparison with the Egyptian chronology alone, Moses fled to Midian in the latter years of the reign of Ramesses IX. An unnamed pharaoh's death while Moses was in Midian is reported in the Bible without elaboration. "*During that long period the king of Egypt died*" (Ex. 2:23). In contrast, in reporting the death of Chenephres, Artapanus includes a stunningly specific claim about the pharaoh: Chenephres was afflicted with a rare and easily observable skin disease – *elephantiasis*.

And Raguel wished to make an expedition against the Egyptians in order to restore Moses, and procure the government for his daughter and son-in-law; but Moses prevented it, out of regard for his own nation... About the same time Chenephres died, having been the very first person attacked by elephantiasis...

*Preparation for the Gospel*, IX, 27:19-20

The Greek word *elephantiasis* refers to either of two disfiguring diseases: *elephantiasis graecorum* is leprosy, a bacterial infection of the nervous system that causes permanent nodular scars on the face, hands and feet, whereas *elephantiasis arabum* is a parasitic infestation of the lymph nodes that leads to extreme swelling in the groin and legs. Though Artapanus is not specific, the Book of Jasher leaves no doubt, stating that the pharaoh was "*afflicted with the plague of leprosy from the sole of his foot to the crown of his head*" (Jasher 76:25). Only leprosy afflicts the head. Chenephres had leprosy.

As seen in figure 11, the face of Ramesses IX is grossly disfigured with the characteristic nodular scars of leprosy. Artapanus (with confirmation from the Book of Jasher) has identified Chenephres to the man. Sety I and Ramesses II are shown for comparison. If Ramesses II were the pharaoh of the Exodus, his predecessor Sety I should have leprosy. Only Ramesses IX has leprosy. Thus from multiple lines of evidence, Chenephres, the pharaoh who died while Moses was in Midian, is undoubtedly Ramesses IX.

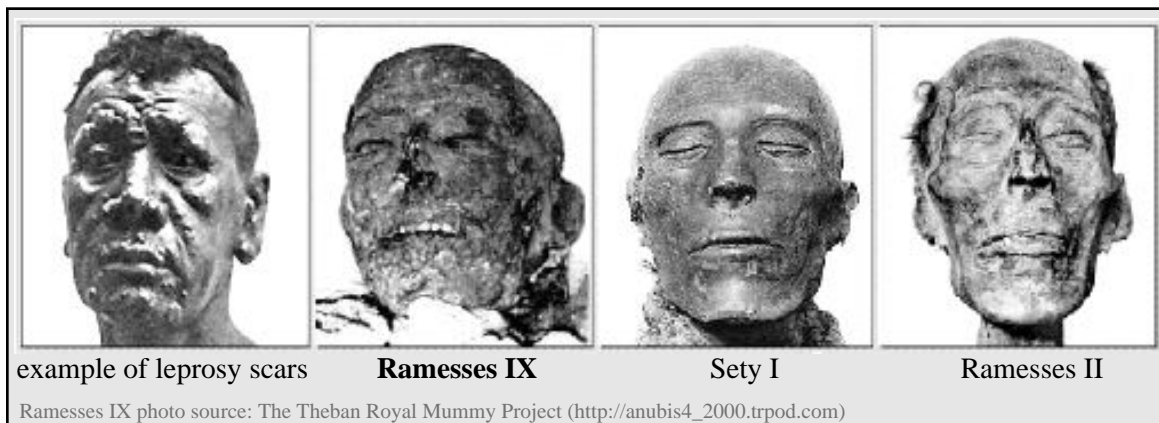


Figure 11: Ramesses IX is the only pharaoh whose mummy is scarred by leprosy.

Figure 11 is direct physical evidence that the pharaoh who tried to kill Moses was Ramesses IX. The Bible leaves out such specific details, making it much harder to identify the pharaoh. But how many biblical scholars have read Artapanus and/or the Book of Jasher, yet not checked the mummies of Egypt's pharaohs for symptoms of leprosy? It is such an easy test. I find it remarkable that none had checked.

# 10

## Moses led the Exodus to Mount Sinai in 1092 BC

Having found the pharaoh who died while Moses was in Midian, it is just a few years forward to the Exodus. Earlier, the Book of Jubilees missed the date when Moses was born by 8 years in comparison with Bar Hebraeus, whose record is corroborated by the Book of Jasher. That doesn't render the Jubilees calendar useless; one must recognize that a miscount occurred between Joseph's death and the birth of Moses, and avoid that region of the calendar. Rather than making a long stretch back to Jacob or Abraham, it is possible to measure the short interval between two points within the adult life of Moses. From the record of Bar Hebraeus, Moses departed to Midian in 1111. The Book of Jubilees gives this date as the 49th jubilee, 3rd week, 6th half-year.

And in the sixth year of the third week of the forty-ninth jubilee thou didst depart and dwell in the land of Midian five weeks and one year.

Book of Jubilees 48:1

Moses returned after "*five weeks and one year*," which should be read as  $(5 \times 7) + 1 = 36$  half-years, or  $36 \div 2 = 18$  years. The Book of Jubilees also gives the calendar date when the Exodus began (which must be at least 18 years after Moses fled to Midian). The date is given in terms of time that has passed; forty-nine jubilees plus one week of the next jubilee have been completed. It is the 50th jubilee, 2nd week, 2nd half-year.

Wherefore I have ordained for thee the year-weeks and the years and the jubilees: there are forty-nine jubilees from the days of Adam until this day, and one week and two years and there are yet forty years to come for learning the commandments of the Lord, until they pass over into the land of Canaan, crossing the Jordan to the west.

Book of Jubilees 50:4

The year that the Exodus departed Egypt can be found by counting forward from when Moses fled to Midian in 1111.

50th jubilee, 2nd week, 2nd half-year = Exodus began

49th jubilee, 3rd week, 6th half-year = Moses fled to Midian (1111 BC)

0 jubilees + 5 weeks + 3 = difference in half-years

$(0 \times 49) + (5 \times 7) + 3 = 38$  half-years  $\div 2 = 19$  years

By the jubilees calendar the elapsed time from when Moses fled to Midian until he arrived at Mount Sinai during the Exodus was 19 years (figure 1, interval I). Since Moses reached Mount Sinai in the third month of the same year that he departed from Egypt (Ex 19:1), the Exodus departed Egypt in  $1111 - 19 = 1092$  BC. The Book of Jubilees is internally consistent, placing the Exodus one year after Moses returned from Midian, but when the BC date is checked against the record of Bar Hebraeus, the two sources disagree on the date that Moses departed from Egypt by 12 years.

And when Moses was eighty years old, that is to say, in the four hundred and thirtieth year of the promise, he was commanded by God to take the Hebrews out from Egypt. And when the Hebrews had passed over in the middle of the sea on dry land, Pharaoh Psonos, who rose as king after Amonpathis, and all his army were drowned in the Sea of Suph.

Bar Hebraeus, *Chronography* 1:52

Hebraeus has counted from the year of the promise to when Moses crossed the sea as the Exodus departed Egypt. The time elapsed is  $430 \div 2 = 215$  years (figure 1, interval J<sub>1</sub>). The corresponding year is  $1319 - 215 = 1104$  BC. Also, Hebraeus had earlier stated that Moses was born in the 350th half-year of the promise. The difference,  $430 - 350 = 80$ , matches the age of Moses when he confronted the pharaoh in the Biblical account: “*Moses was eighty years old and Aaron eighty-three when they spoke to pharaoh*” (Exodus 7:7). Thus the Bible places the drowning of pharaoh Psonos soon after Moses confronted a pharaoh at age  $80 \div 2 = 40$  years old (figure 1, interval J<sub>2</sub>). Counted either 215 years from the promise to Abraham in 1319 BC, or 40 years from the birth of Moses in 1144 BC, the year that pharaoh Psonos is reported to have drowned in the sea is 1104 BC. This numerical consistency makes it unlikely that any of the numbers are miscopied. If the original record was accurate, it is still accurate.

There is a discrepancy in the time elapsed from when Moses fled to Midian until he departed on the Exodus. Bar Hebraeus provides independent records placing Moses’ flight to Midian in 1111 BC (4th year of Tiglath-pileser) and placing the Exodus departure in 1104 BC. The time elapsed is just 7 years. In the Book of Jubilees, the time elapsed was 19 years. Regardless of the BC date for Moses’ flight to Midian, in the account of Hebraeus, Moses led the Exodus from Egypt when he was 40 years old. In the Book of Jubilees, Moses did not depart on the Exodus until 12 years later in his life, when he was 52 years old. Either age is plausible, but only one can be correct. The stories don’t match.

As with the case of the birth of Moses, within the account of the Exodus, ancillary details make it possible to determine which if either of the two conflicting Exodus dates is the best match to known history. In this case science provides the answer. From the description given in the Bible, Mount Sinai was a volcano that erupted just as the Exodus departed from Egypt. That timely eruption, if it really happened as reported, should be recorded as a layer of acidic precipitation in Greenland ice cores. One must drill down to the approximate year of the Exodus, find the layer of acid, and then count annual layers to determine the year. That’s the exact date of the Exodus. Stunningly simple in principle, but could it be so easy? The drilling and counting has already been done. However, this method will only work if the eruption described in the Book of Exodus was truly coincident with the departure from Egypt, as opposed to a natural wonder that occurred at some other time and was incorporated into the Exodus narrative for dramatic effect.

Despite initial skepticism, I conclude that the eruption of Mount Sinai was coincident with the Exodus (though this is not true of other miracles associated with the Exodus). I’ve reached this conclusion because the alternative – an embellishment of the narrative, would not have been so accurate in describing an eruption from different distances at various times during the Exodus journey. As the Exodus departed from Egypt, a distant eruption is described as a pillar of cloud by day and a pillar of fire by night. The pillar of fire is not lava, which could not reach such a great height. It is lightning, illuminating the billowing cloud of ash and steam from within. Day after day the cloud was always ahead of Moses and the Israelites. This requires that the eruption was somewhere to the east of Egypt, and was witnessed from a great distance as the Israelites walked toward it.

After leaving Succoth they camped at Etham on the edge of the desert. By day the Lord went ahead of them in a pillar of cloud to guide them on their way and by night in a pillar of fire to give them light, so that they could travel by day or night. Neither the pillar of cloud by day nor the pillar of fire by night left its place in front of the people.

Exodus 13:20-22

In the supernatural interpretation of the above passage, the pillar of cloud was nearby and moving forward to lead the way. But this interpretation is not necessarily what occurred. A natural explanation is that the pillar of cloud was rising from a volcano beyond the horizon. Day after day Moses led the Israelites toward the same point on the horizon, or at least along a road that was taking them closer. Finally, the Israelites were close enough that they could feel the ground trembling as they stood at the foot of the volcano, which was flashing with lightning and billowing smoke like a furnace. Mount Sinai was the source of the pillar of cloud and pillar of fire witnessed weeks earlier from Egypt. Moses led the Israelites directly to it.

Then Moses led the people out of the camp to meet with God, and they stood at the foot of the mountain. Mount Sinai was covered with smoke, because the Lord descended on it in fire. The smoke billowed up from it like smoke from a furnace, the whole mountain trembled violently...

Exodus 19:17-18

Further confirmation that Mount Sinai was active while Moses was present is found in the description of two of Moses' nephews being killed as they offered burning incense to the cloud. That's consistent with the dangers of a real volcano, and not what one would expect of someone describing an eruption that hadn't really happened during the Exodus.

Aaron's sons Nadab and Abihu took their censers, put fire in them and added incense; and they offered unauthorized fire before the Lord, contrary to his command. So fire came out from the presence of the Lord and consumed them, and they died before the Lord.

Leviticus 10:1-2

The billowing cloud above a volcano has the same electrical properties as a thunderstorm. It would be phenomenally dangerous to put burning incense in a metal lantern and raise it into the sky near an erupting volcano. The two young priests were killed by a lightning strike. This was not understood. The best anyone could think of to explain their deaths was that they were holding incense burners; therefore the Lord must not have liked what they were burning. The fact that the explanation makes little sense, as opposed to teaching some meaningful lesson, makes the story all the more credible.

For an eruption to be recorded in Greenland ice cores, it must either be a volcano near Greenland, which Mount Sinai was not, or the plume of the eruption must reach the stratosphere. Winds in the stratosphere rapidly circle the globe and disperse volcanic acid throughout the northern hemisphere. The minimum height of the Mount Sinai eruption can be judged from the distance at which it was first observed. No volcanoes have erupted in the past ten thousand years (Holocene era) on the Sinai Peninsula.<sup>51</sup> Therefore, despite being named after the biblical Mount Sinai, the Sinai Peninsula was not the location of the mountain visited by Moses. Mount Sinai could only have been farther east, where there are numerous active volcanoes along the Red Sea coast of Arabia. The closest are 400 miles from the Nile delta.

Due to the curvature of the earth, the plume of a volcano 400 miles away would have to rise 20 miles just to be visible above the horizon. The stratosphere begins at roughly 10

miles. Thus the volcanic plume that guided Moses to Mount Sinai had risen well into the stratosphere when it was visible as a pillar of cloud from Egypt. As a result, the upper atmosphere of the entire northern hemisphere was impacted, and a layer of acid snowfall from the year of the Exodus is forever embedded in the ice of Greenland. However, Mount Sinai's eruption signal will look no different than that of other mid-latitude volcanoes – a modest spike of acidity, among many others, as seen in figure 12.

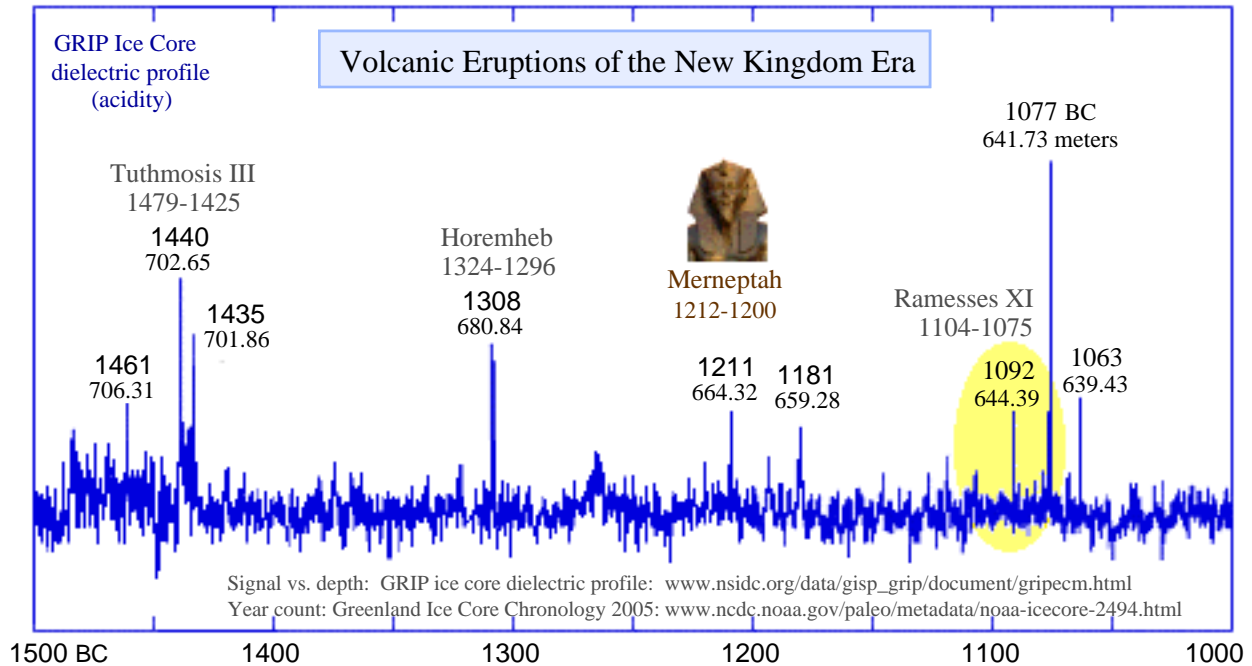


Figure 12: Volcanic eruptions recorded in the GRIP ice core.

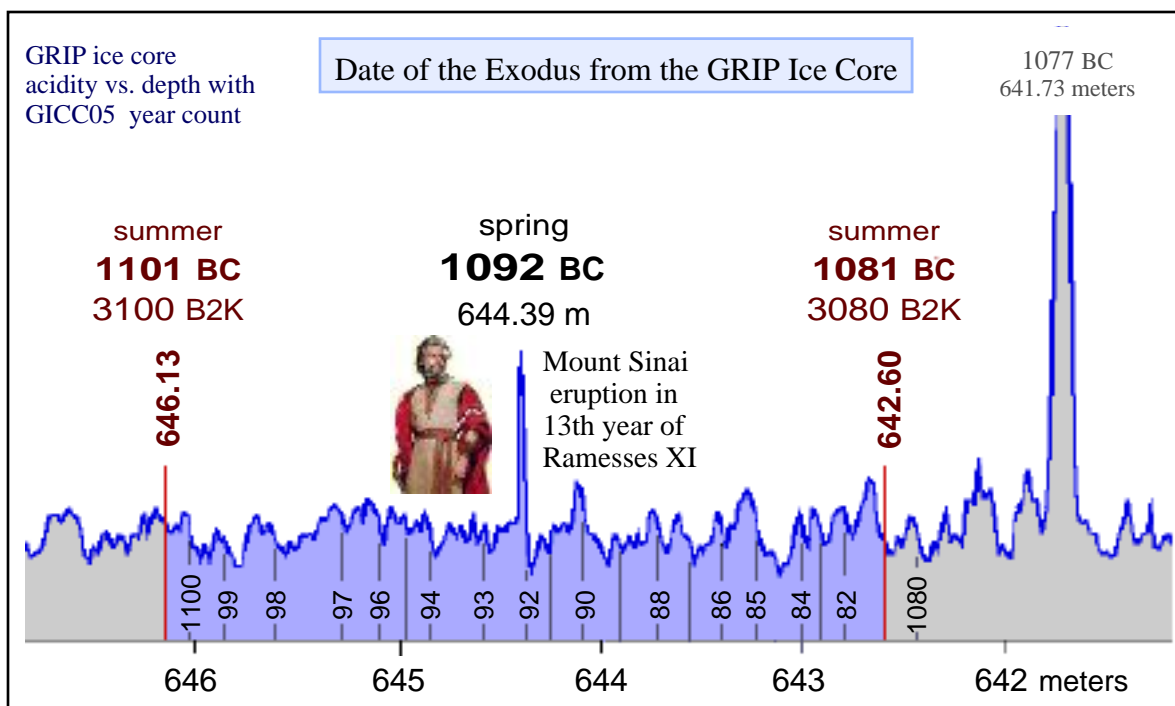


Figure 13: Detail of the search for the year of the Exodus in the GRIP ice core.

Since there are several significant eruptions in any given century, one cannot identify the eruption of Mount Sinai in an ice core unless the date has been confined to a specific search area. Given an approximate date, one can search for an eruption to see if one matches. In this case, the choices have been narrowed to two exact years: 1104 BC, if Moses reached Mount Sinai in the 430th half-year of the promise, or 1092 BC if Moses reached Mount Sinai 19 years after his flight to Midian. These are the conflicting records of Bar Hebraeus and the Book of Jubilees.

The ice core has layers that must be counted, and this counting process was initially problematic. In 2005, the GRIP core and two others were counted simultaneously, such that errors could be minimized through cross checking. This GICC05 calibration has a maximum error of just 3 years for c. 1100 BC. It is possible to say ‘yes there was an eruption’, or ‘no there was not’ with that much resolution. As shown in figure 13, in the GRIP core at 664.37 meters, there is an unmistakable eruption signal corresponding to  $1092 \text{ BC} \pm 3 \text{ years}$ .<sup>52</sup> No eruption signals are found in the vicinity of 1104 BC (see wider view of figure 12). Thus it appears that the Book of Jubilees correctly records the year of the Exodus and, via the precision of the match, confirms the ice core calibration.

# 11

## Ramesses X had been deposed by Moses in 1104 BC

The Book of Exodus is perhaps best known for its story of the Nile turning to blood, and other plagues upon Egypt, followed by the miraculous parting of the sea, through which Moses led the Israelites to freedom. Several, if not all of the plagues can be explained as legends attempting to explain the catastrophic effects of volcanic ash falling in Egypt from either the eruption of Vesuvius or Thera. In one critically important verse, Moses tossed “*soot from a furnace*” into the air. This soot then fell as fine dust that covered the whole land of Egypt and caused festering boils (Ex. 9:8-9). Fine dust falling over such a broad area is a description of windborne volcanic ash. The festering boils can be explained if the ash was acidic. Ian Wilson recognized a connection to the Thera eruption in his book *The Exodus Enigma*, noting that recent undersea eruptions at Thera have been highly acidic, and also stained the surrounding waters reddish-brown.

If it might seem impossible to reconcile ‘water . . . changed into blood’ with phenomena from the Thera eruption, this is to reckon without one peculiarity visible today to any Thera visitor: set into one of the two Kameni islands is a bay whose water is stained a deep reddish brown. It’s temperature is bath-water warm, and at times when there have been minor eruptions (which today center on the Kameni islands) the staining has stretched for many miles around the islands. All marine life within a twenty-five-mile radius has died when eruptions and staining of the water have occurred, apparently as the result of the presence of sulfuric acid, which, as was observed in the nineteenth century, spontaneously cleans the copper bottoms of ships.

Ian Wilson, *The Exodus Enigma*, 1975, p. 123.

Wilson argued that since the plagues could be explained by the Thera eruption, the Exodus occurred when Thera erupted. Wilson had not considered Vesuvius as another nearby source of volcanic ash, but in either case, Wilson had no comprehensive Hebrew chronology to check against. Wilson is correct that the Book of Exodus describes phenomena attributable to a volcanic eruption, but just as the biblical authors intended, Wilson was fooled into thinking that a legendary natural disaster played out while Moses was threatening the pharaoh. Vesuvius erupted in the 17th century BC, Thera no later than the 16th century BC, still four centuries prior to the Exodus. The inclusion of a volcanic natural disaster in the Exodus narrative is evidence that historical accuracy was not as important as telling a memorable story – which it is. With a comprehensive Hebrew chronology, it is possible to sort history from religious propaganda. The plagues were propaganda added to the Exodus story.

Next consider Bar Hebraeus’ record of Moses parting the sea. The parting of the sea can similarly be dismissed as religious propaganda, but in this case the record also contains exact dates and the report of a pharaoh’s death. Parts of the story may be historical.



And when Moses was eighty years old, that is to say, in the four hundred and thirtieth year of the promise, he was commanded by God to take the Hebrews out from Egypt. And when the Hebrews had passed over in the middle of the sea on dry land, Pharaoh Psonos, who rose as king after Amonpathis, and all his army were drowned in the Sea of Suph ... And from the time when God said unto Abraham, 'Know well that thy seed shall be dwellers and sojourners in a country which is not theirs', must be counted the four hundred and thirty years of the subjugation, as it is written in the Book of Exodus...

Bar Hebraeus, *Chronography*, 1:52

Hebraeus states that pharaoh Psonos and his army were drowned, and he gives the date as the 80th half-year of the life of Moses, also as 430th half-year of the promise, and then again as following 430 half-years "*of the subjugation.*" Equating 430 half-years since the promise with subjugation is Hebraeus' own word, not from the Bible: "*Now the length of time the Israelite people lived in Egypt was 430 years*" (Ex. 12:40). But the term subjugation makes sense, since Abraham and his descendants were vassals to the pharaoh, thus the Hebrews lived in "*a country not their own*" (Gen. 15:13). What changed in the 430th half-year? Moses declared the Hebrews independent of Egypt.

Two claims associated with the Exodus appear to be historical: first, at age 80 half-years, Moses confronted a pharaoh. That pharaoh's reign soon came to an end. The year was 1104 BC. Second, Moses led the Exodus out of Egypt. That was not until 1092 BC, as Mount Sinai erupted in the distance. In between, twelve years of the life of Moses, from age 40 to 52 years, have been edited out of the story.

As mentioned in the introduction, a contrary version of the Exodus story fills in the missing 12 years. The ancient Egyptian historian Manetho's account of the Exodus includes a 12-year interval (ending in the 13th year) when Moses seized power in Egypt, before being expelled by the Egyptian king Amenophis.

He [Manetho] says futher, that "the people of Jerusalem came accordingly upon the Egyptians, and overthrew their cities and burnt their temples, and slew their horsemen, and in short abstained from no sort of wickedness or barbarity: and for that priest who settled their polity and their laws," he says, "he was by birth of Heliopolis; and his name was Osarsiph, from Osiris, the god of Heliopolis, but that he changed his name and called himself Moses." He then says that "on the thirteenth year afterward Amenophis, according to the fatal time of duration of his misfortunes, came upon them out of Ethiopia with a great army... slew a great many of them, and pursued them as far as the bounds of Syria."

Josephus, *Against Apion* I, chap. 28, (264-6)

Manetho's account is plausible as the Egyptian empire disintegrated in the late 20th dynasty. Three leaders must have been vying for power: Moses, king Amenophis, and a pharaoh whom Hebraeus called Psonos. Hebraeus mentions a pharaoh Amonpathis, who could also be Manetho's king Amenophis, but the report that pharaoh Psonos drowned in the sea is contradicted in the Book of Jasher, which names the same pharaoh Adikam, and claims that Adikam repented and was plucked from the sea by an angel, then taken to Nineveh.

And when the children of Israel had entered the sea, the Egyptians came after them, and the waters of the sea resumed upon them, and they all sank in the water, and not one man was left excepting Pharaoh, who gave thanks to the Lord and believed in him, therefore the Lord did not cause him to perish at that time with the Egyptians. And the Lord ordered an angel to take him from amongst the Egyptians, who cast him upon the land of Ninevah and he reigned over it for a long time.

Book of Jasher 81:40-41

Psonos and Adikam are the same pharaoh. Based on Manetho's account, one can presume that the army of pharaoh Psonos was defeated, but not drowned, when Moses seized power. From the Book of Jasher's account, that pharaoh survived but fled to Nineveh. Adikam is possibly derived from Amenhirkopshef, the personal name of Rameses X.<sup>53</sup> In addition to the false story that the Egyptian army was drowned, the fate of Rameses X was changed from a negative – the pharaoh escaped; to a positive – the pharaoh survived only because he repented and the Lord granted mercy.

The length of Ramesses X's reign is one of the remaining uncertainties in the Egyptian chronology, but the Book of Jasher's report that Adikam's father was buried in Zoan (Jasher 76:59) sheds light on that question. The mummy of Ramesses IX was found among a cache of royal mummies hidden in a cave in Thebes. If the Book of Jasher's report is accurate, the body of Ramesses IX must have been moved to Thebes after his initial burial in the northern capitol at Zoan.

The reason to move a body is fear of desecration, and the date when Ramesses IX was moved is obliquely recorded in a surviving tomb workmen's journal from the royal cemetery at Thebes.<sup>54</sup> An entry dated year 3 of Ramesses X, II Shemu 23 (mid-March) reports that the pharaoh's vizier visited the cemetery and demanded help (or was refused help) moving planks and garments belonging to the deceased pharaoh Ramesses IX. The most probable reason to be moving the pharaoh's clothing in the 3rd year after his death is if the pharaoh himself was being reburied, this time in Thebes, because his body was no longer safe in the north. This would place the invasion by Moses in both 1104 BC and the spring of Ramesses X's 3rd year.

Furthermore, Adikam's reign is recorded as just four half-years: "*Adikam was twenty years old when he reigned over Egypt, he reigned four years*" (Jasher 77:1). Adikam's reported age, twenty half-years, is suspect, because he is also reported to have a wife and four sons. That number could be copied wrong, but four half-years is also recorded by subtraction of 206 half-years (Jasher 77:2) from 210 half-years (Jasher 81:4), the start and end of Adikam's reign, counted from the arrival of the Israelites in Egypt (during Merneptah's reign) Such a short reign is uncommon, and can be tested directly against the reign of Ramesses X.

The Hebrew record would be counted by the Mesopotamian system of counting reigns as integers. Since the winter half-year began in September, Ramesses IX, who died in mid-October,<sup>55</sup> was still alive when the winter half-year of 1107-1106 began. The first half-year credited to Ramesses X would be the summer of 1106. The second would be the winter beginning in 1106, then the summer of 1105, and finally the winter of 1105-1104. Four half-years in total, so long as Ramesses XI came to power on or before the 1st of Nisan in 1104 BC.

Here the comparison of Egyptian and Hebrew records reveals a surprise that would otherwise go unnoticed. The accession day of Ramesses XI is believed to be recorded in Papyrus Ashmolean 1945.96 (the Adoption Papyrus),<sup>56</sup> which begins with the dateline: year 1 of Ramesses XI, III Shemu day 20 (April 10, 1104), followed by the statement "*On this day, - proclamation of the appearing of this august god, to Amun, he having arisen, appeared, and made offering to Amun.*" Though not explicitly an accession date, the offering to Amun is a ceremony akin to accepting the responsibilities of leadership. Furthermore, the papyrus was written by a childless husband in order to legally adopt his wife, such that she would be his heir. This is the type of document that would be drafted following a hostile change of government. The husband may have been concerned that previous legal records would no longer be honored, or had been lost.

In order to limit Adikam's reign to just four half-years, Ramesses XI must have formally declared his kingship on or before the 1st of Nisan in 1104. This requires a conversion of the Hebrew lunar date to an Egyptian calendar date. The Julian calendar used by modern astronomers serves as an intermediary. The month of Nisan began with the sighting of a new crescent moon at sunset in late March or early April. In 1104 BC, an astronomical new moon fell in the evening of April 7, 1104 BC, about one half hour after sunset in Egypt.<sup>57</sup> The astronomical new moon is when the moon crosses a line between the earth and the sun. The moon is illuminated on the wrong side, and is not visible from earth. The first thin crescent of the new moon is generally visible just after the sunset that falls 24 – 48 hours later than the astronomical new moon. This makes it unlikely that a new moon was observed at sunset on April 8 (23½ hours later). If not observed on that evening, by default, the 1st of Nisan would have begun at sunset on April 9 and included the daylight hours of April 10. This is exactly the day of Ramesses XI's appearance and offering to the god Amun, III Shemu day 20 = April 10, 1104 BC.

The match of Adikam to Ramesses X was not really in doubt. It was the Book of Jasher's assignment of four regnal half-years to Ramesses X that was being tested. In the process of putting that claim to the test, we learn that Ramesses XI's public offering to the god Amun falls on what may have been exactly the 1st of Nisan (must have been, if the Book of Jasher is correct). Is it possible that Ramesses XI's accession day was deliberately the 1st of Nisan, despite being an Egyptian pharaoh, for whom that date had no special significance?

Under normal circumstances, one must dismiss such a coincidence as meaningless. The pharaoh became pharaoh when his father died. There was choice of accession day. But Adikam (Rameses X) was deposed. Therefore Ramesses XI could choose the day that he declared himself pharaoh, or Moses could have chosen the day, if Moses, installed a puppet king to preserve the appearance of Egyptian rule. In that case the 1st of Nisan, a date of special significance to Hebrews, does make sense as the deliberate choice for a public declaration that Ramesses XI was the new pharaoh. III Shemu 20 = 1 Nisan = April 10, 1104 BC is then a lunar date, a confirmation that 1104 is the exact year of Ramesses XI's accession, providing another fixed point in the Egyptian chronology.

In a further connection that comes to light only as the chronology falls into place, the Book of Jasher equates the end of Adikam's reign with the end of the 210th half-year of the Israelites enduring hard labor in Egypt.

And the sojourning of the children of Israel, who dwelt in the land of Egypt in hard labor, was two hundred and ten years. And at the end of two hundred and ten years, the Lord brought forth the children of Israel from Egypt with a strong hand.

Book of Jasher 81:3-4

The time interval is confirmed in the Targum of Palestine:

And the days of the dwelling of the sons of Israel in Mizraim were thirty weeks of years, which is the sum of two hundred and ten years. But the number of four hundred and thirty years had passed away since the Lord spake to Abraham, in the hour that He spake with him on the fifteenth of Nisan, between the divided parts, until the day that they went out of Mizraim.

*Targum of Palestine*, Exodus 12:40

As in the Book of Jasher the number 210 is recorded in duplicate. And in this case it is also explicitly stated that the end date of the 210 half-years coincided with the end of the 430 half-years (215 years) since the promise to Abraham, that is, in 1319 – 215 =

1104 BC. Working backwards, this period of hard labor began  $210 \div 2 = 105$  years earlier, in  $1104 + 105 = 1209$  BC. In chapter 2, 1209 BC was already mentioned as the year that Tyre was built (such that Hiram's twelfth year was the same whether counted from the building of Tyre or from the building of Carthage). This date for the building of Tyre was determined from the chronology of the Parian Marble, which places the fall of Troy 885 years before the death of Alexander the Great, thus in  $323 + 885 = 1208$  BC.<sup>58</sup> Tyre had been built one year earlier, according to the record of Pompeius Trogus, who linked the building of Tyre to the storming of neighboring Sidon by the king of the Ashkelonians.

Many years after, their city being stormed by the king of the Ascalonians, sailing away to the place where Tyre stands, they built that city the year before the fall of Troy.

*Philippic History of Pompeius Trogus 18:3*

Ashkelon and Israel were two of four defeated enemies in Canaan that are listed together on Merneptah's victory stele (figure 14). Thus one can imagine that Tyre was built in 1209 BC as the result a domino effect set in motion by Merneptah's conquest of Ashkelon. Fleeing his own city, the defeated king of Ashkelon could have attacked Sidon to the north, causing the people of Sidon to flee and resettle in nearby Tyre. This connection gives the exact year of Merneptah's campaign in Canaan, 1209 BC.

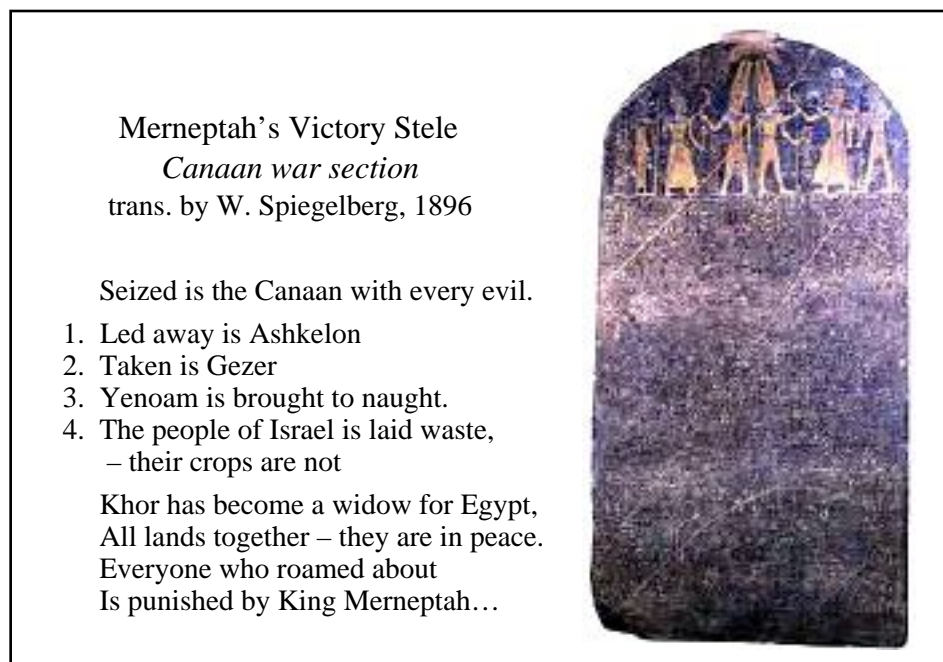


Figure 14: Merneptah's campaign in Canaan as described on his victory stele.

In the same campaign as his defeat of Ashkelon, Merneptah attacked Israelite rebels in the highlands of Canaan. If slaves were taken back to Egypt, which was commonplace, the defeated Israelites (foot soldiers, not Joseph's brothers) would have been enslaved in 1209 BC. Moses defeated Ramesses X in the spring of 1104 BC, which was 105 years later. The 105-years of hard labor endured by the Israelites (Jasher 81:3-4) is then explained if Moses freed the Israelite slaves when he defeated Ramesses X. Both the beginning and end of the enslavement align to known events in Egyptian history.

# 12

## Moses ruled Egypt during the ‘Repeating of Births’

Returning to the contrary Egyptian account of the Exodus (in which Moses was forcefully expelled from Egypt), king Amenophis was the rival of Moses in both the account of Manetho and that of a second Egyptian historian, Cheremon (*Against Apion*, 1:26, 1:32). In Manetho’s more detailed account, upon being informed of the invasion by Moses, king Amenophis mobilized his army and marched to a point beyond Memphis, before turning back and fleeing into exile in Ethiopia. Knowing that this conflict followed the defeat of Ramesses X, the name Amenophis matches high priest of Amun Amenhotep, a known contemporary of pharaoh Ramesses IX. Amenhotep is on the left in figure 15, a relief depicting the high priest meeting with Ramesses IX in that pharaoh’s 10th year, 1116 BC. Amenhotep would have to survive 24 more years in order to expel Moses from Egypt in 1092 BC. This would be possible so long as Amenhotep was not elderly at the time of his meeting with Ramesses IX. He does not appear to be elderly in the relief carving of that meeting.



Figure 15: High priest Amenhotep and Ramesses IX.

Ramesses IX is the pharaoh that Artapanus called Chenephres (chapter 9). Moses had been a high official in Chenephres’ administration before fleeing to Midian. Chenephres (Ramesses IX) died while Moses was in Midian, then Adikam (Ramesses X) reigned from 1107-1104, until he was deposed when Moses invaded Egypt. King Amenophis (high priest Amenhotep) fled south to Ethiopia, but would eventually return and defeat Moses. The political equivalents of Chenephres, Adikam and Amenophis have been found in late 20th dynasty Egypt. That leaves Moses.

A match to Moses is also found among the men of power in late 20th dynasty Egypt. In the Abbott Papyrus,<sup>59</sup> it is recorded that in year 14 of Ramesses IX (1112-11 BC) his vizier, Nebmarenakht, was conducting a tomb robbery investigation. However, this investigation is mentioned only in the past tense because it was not completed. In year 16, the date of the papyrus, the investigation was resumed by a new vizier, Khaemwese, at the insistence of Paser, the mayor of Thebes. This change of viziers can be explained by Moses' flight to Midian in 1111 BC. Nebmarenakht could not complete the investigation because he was Moses, and Moses had fled from the pharaoh, who then appointed a new vizier, Khaemwese.

Not only did vizier Nebmarenakht disappear when Moses fled to Midian, Nebmarenakht reappeared after the death of Ramesses IX, just as Moses returned from Midian after the pharaoh from whom he fled had died (Ex. 2:23). Furthermore, in a temple graffito at Kawa in Kush, a mayor Paser is attested as the father of Nebmarenakht, the troop commander of Kush. This matches the Book of Jasher's record that Moses (Nebmarenakht) had been the ruler of Cush prior to his flight to Midian (chapter 9).

#### Nebmare-nakht, Troop-Commander of Kush

*1. Four identical Graffiti, on four columns of Inner Hall, Temple A, Kawa.*

*(i) Text of Kneeling Man. (4x) For the spirit of the Fanbearer on the King's Right hand, the Troop-Commander of Kush, Superintendent of the Desert-lands, Nebmarenakht, justified, <son of> the Dignitary and Count/Mayor, Paser, justified.*

*(ii) Cartouches. (2x) Nebmare Meriamun, Ramesses VI, Amenhirkhopshef II, god, Ruler of Heliopolis.*

Kenneth Kitchen, *Ramesside Inscriptions*,  
vol. VI, (2012), §358:1-10, p. 282.

The Kawa graffito was thought to be from an earlier Nebmarenakht, who served under the earlier pharaoh Ramesses VI. Thus the quote above appears amid undated inscriptions from the reign of Ramesses VI. An alternate explanation is that Moses (Nebmarenakht) had his name and the depiction of a kneeling man carved above the existing cartouches of Ramesses VI, because Ramesses VI was a "good pharaoh" to the Hebrews. He was the opponent of Ramesses V, who oppressed the Hebrews when Moses was a child (chapter 8). Connecting the dots, if it is the same mayor Paser in the Kawa graffito as in the Abbot Papyrus, Paser's role in the tomb robbery investigation is explained. Paser was the father of vizier Nebmarenakht. Paser was insisting that the investigation that had been started by his son be completed by the new vizier Khaemwese. The investigation did continue, but apparently not to the satisfaction of Nebmarenakht, who prosecuted additional tomb robbers in year 1 of the Renaissance.

After fleeing to Midian in year 14 of Ramesses IX, Moses appears to have returned to Egypt intent on seizing the government from Ramesses X. In Manetho's account, Moses recruited allies identified as shepherds from Jerusalem. This was likely an alliance with the Jebusites who were living in Jerusalem after the Exodus, and were never driven out (Josh 15:63). In the biblical Table of Nations, the Jebusites were a branch of the Canaanites, descended from Noah through his grandson Canaan (Gen. 10:1-6, 15-16). The Jebusites were therefore both Canaanites, via their decent from Canaan, and Kassites, via Noah, the Hyksos era common ancestor of both Canaanites and Hebrews. It is the Jebusites, not Hebrews, who settled in Jerusalem after the Hyksos expulsion: "*they built a city in that country that is now called Judea, and that large enough to contain this great number of men, and called it Jerusalem*" (Against Apion 1:14/90). The Hebrews did

not control Jerusalem until the reign of David. But to Manetho, there was probably no distinction among Jebusite vs. Hebrew Kassites.

Since Jebusites were former Hyksos, this would explain Moses promising the shepherds of Jerusalem that he would restore to them to their former capitol Avaris. “*He also promised that he would, in the first place, bring them back to their ancient city and country Avaris... These shepherds were all very glad of this message... and in little time they came to Avaris*” (*Against Apion* 1:26/242-3). This alliance with the Jebusites also explains why the Exodus lasted years, not weeks, the actual travel time from Egypt to Canaan. Jebusites were happy to ally with Moses when the goal was to conquer Egypt – but they were not willing to surrender their own land to the Hebrews after that conquest had failed. The Exodus stopped short of crossing the Jordan River until after Moses was dead. He didn’t enter the land of the Jebusites.

Moses died on a mountain top with Canaan in sight. He knew that he was going to die; thus it was probably a political execution. “*I have let you see it with your eyes, but you will not cross over into it*” (Deut. 34:4). Moses was again conversing with the Lord, meaning a superior ruler; either an Egyptian military commander had caught him, or perhaps a Philistine king, who was now pressing to conquer the same land. In either case, Moses was forced to look out over the land that he could not enter, and then he was killed. After Moses was put to death, Joshua had no reservations about attacking the land of Moses’ former allies.

That explains how Moses died at only 60 years old. Earlier in his career, the twelve years when Manetho claims that Moses ruled Egypt would begin when Ramesses X was deposed, and correspond to years 1 through 12 of Ramesses XI (when Moses was age 40 to 52 years old). Little is known of Egyptian history during that interval. One inscription, the Piankh Oracle, places year 7 of the Repeating of Births within the reign of Ramesses XI.<sup>60</sup> Thus the Repeating of Births can tentatively be matched to years 1 through 12 of Ramesses XI.

Vizier Nebmarenakht’s return to power during the Repeating of Births is attested in Papyrus Mayer A, the transcript of a robbery trial including thieves who had laid hands upon the portable chest of King Usimare Setepenre (Ramesses II) and the box shrine of King Menmare Sethos (Sety I). The transcript is dated year 1 of the Repeating of Births. Nebmarenakht is listed first among those overseeing the trial. In the translation of Kenneth Kitchen, the trial was heard by “*the Prefect and Vizier Nebmarenakht*”<sup>61</sup> If prefect to the pharaoh, Ramesses XI was a child, and consistent with Manetho, vizier Nebmarenakht (Moses) was the true ruler of Egypt.

The term Repeating of Births was used in the early 19th dynasty by Sety I, and in that case has been equated with a restoration of Kassite rule at the former Hyksos capitol Avaris (chapter 7). There are further 19th dynasty connections to Moses and the 20th dynasty Repeating of Births. Manetho stated that Moses chose as a base for his revolt “*the city of Avaris, which was then left desolate of the shepherds*” and that “*his name was Osarsiph, from Osiris*” (*Against Apion*, 1:18/237; 1:28/265). Sety I built a palace at Avaris. His son Ramesses II rebuilt the capitol city and called it Pi-Ramesse (biblical Rameses). Both Sety I and Ramesses II revered the god Osiris. Sety I built a temple to Osiris at Abydos, and Ramesses II depicted himself as the god Osiris in the support columns of his temple at Abu Simbel. Thus, in Manetho’s account, the shepherds who had left Avaris desolate were not the necessarily the Hyksos; he could have been referring to the relatively recent abandonment of Pi-Ramesse, after the 19th dynasty pharaohs fell from power.



The Egyptian capitol returned to the south during the 20th dynasty. Ramesses III built his palace and administrative center at Medinet Habu in Thebes, leaving the northern capitol Avaris/Pi-Ramesse desolate. Moses could have chosen the term Repeating of Births in reference to a restoration of the 19th dynasty and the capitol at Avaris. This is consistent with the high priority that vizier Nebmarenakht (Moses) placed upon prosecuting thieves who had stolen parts from the portable shrines of Sety I and Ramesses II. A further connection to the 19th dynasty is the famous portable shrine of the Exodus – the ark of the covenant, which was supposedly, but implausibly, built during the Exodus journey. One might wonder if the ark was actually constructed much earlier by Egyptian artisans, and if it was one of the two shrines that had been damaged by the thieves who Nebmarenakht was swift to prosecute upon his return to power in year 1 of the Repeating of Births.

A portable shrine that Ramesses II transported to the Battle of Kadesh is depicted in a mural at Abu Simbel. As shown in figure 16, though the carving is crude, two winged figures face each other on the lid of a rectangular box. This matches the general design of the ark of the covenant. *“Make one cherub on one end and the second cherub on the other; make the cherubim of one piece with the cover, at the two ends”* (Ex. 25:19). The shrine in the mural includes a central statue that is not in the biblical description. The central statue is most likely Osiris, but this statue could be removed as easily as Moses could change his name, leaving his ties to an Egyptian god behind.

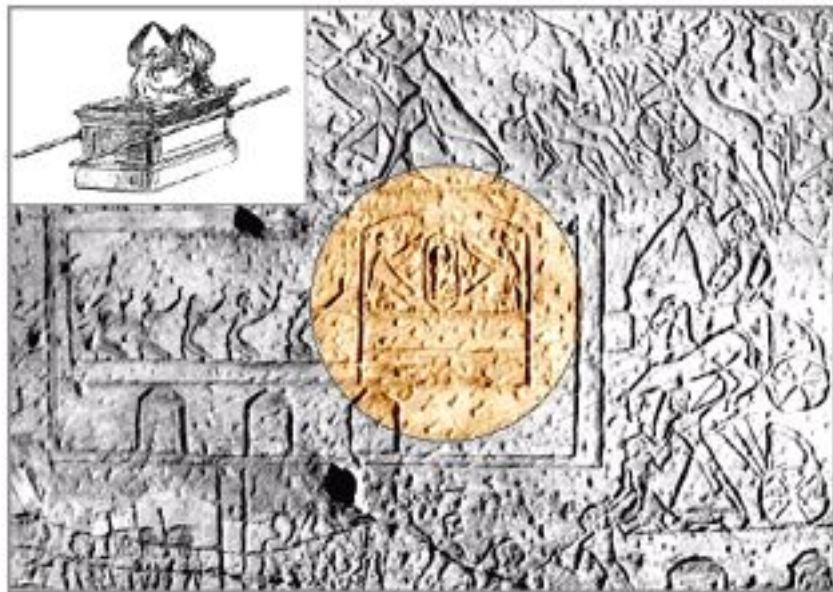


Figure 16: The portable shrine of Ramesses II in a mural at Abu Simbel.

The shrine of Ramesses II was kept in a tent, represented in the mural by a frame with three doors. The tent matches the tabernacle described in Exodus 26. The authors of the Book of Exodus claimed that the ark and tabernacle were built during the Exodus, according to the Lord’s instructions. However, the instructions include *“Make for the tent a covering of ram skins dyed red, and over that a covering of the hides of sea cows”* (Ex. 26:14, NIV). The hides of sea cows is likely an accurate translation, because that would make a durable outer cover. The hides of marine mammals could be easily obtained by the craftsmen of Ramesses II, but would be much harder to obtain during the Exodus journey through a desert. Thus it appears that Levite priests copied a truthful description of the shrine of Ramesses II into the biblical description of the ark of the covenant. While



they erased explicit references to the Egyptian god Osiris, they did not erase hides of sea cows, perhaps not understanding themselves what they were copying.

The biblical Exodus narrative also omits pharaohs' names that would otherwise have revealed its proper place in history. This makes little sense except to make checking the facts difficult. In contrast, Manetho's description of Moses originally being a priest of the god Osiris, and especially Moses' short-lived conquest of Egypt, is both a chronological and political match to vizier Nebmarenakht's return to power during the 20th dynasty Repeating of Births. In this interpretation, while Moses ruled Egypt, the pharaoh was Ramesses XI (1104-1075). His reign of nearly 30 years requires that Ramesses XI remained pharaoh after Moses was driven from Egypt. This can be explained if Ramesses XI was a puppet installed by Moses to preserve the appearance that Egypt was ruled by a legitimate pharaoh. Then, following Manetho's report, in the 13th year (of Ramesses XI), king Amenophis (high priest Amenhotep) returned from Ethiopia and expelled Moses and his allies. That's the historical Exodus. After Moses was driven from Egypt, Ramesses XI could have served equally well as a puppet for high priest Amenhotep, and thus he remained the nominal pharaoh, despite the change in government.

This interpretation differs with the chronology of *The Oxford History of Ancient Egypt*, which states that year 1 of the Renaissance coincided with year 19 of Ramesses XI. However, the underlying evidence is only that in records from Thebes, year 1 of the Renaissance coincided with year 19 of an unnamed king. If that king was high priest Amenhotep, who had been reigning in Thebes while Ramesses IX and X reigned only in the north – then current history books have the chronology of this difficult era wrong, and Manetho and Hebraeus have it right. One can even confirm the reign of Amenhotep in Thebes from the following quote of Bar Hebraeus, who reports that Moses fled to Midian in the 22nd half-year of Amonpathis:

And in his twenty-second year Pharaoh Amonpathis began to compel the Hebrews to throw (i.e. cast or mould) bricks and to build the city of, Armopolis (sic) (Hermopolis?). And he also conquered the Cushites...And the people were ascribing this victory to Moses...And because of this Kanpara was jealous of him... Then he sent a certain Khanothis to kill him. But Moses prevailed and killed this man, and fled into Arabia, to Rauil, the Midianite.

Bar Hebraeus, *Chronography* 1:50

Ramesses IX is called king Kanpara by Hebraeus. High priest Amenhotep (pharaoh Amonpathis) conquered the Cushites, then built fortifications at the city of Hermopolis, a border city dividing Egypt into north and south. Amenhotep had cut off Ramesses IX and confined him to the north. This occurred shortly before Moses fled to Midian in 1111 BC. It was the 22nd half-year, or late in the 11th year, of Amenhotep as king in Thebes. If Amenhotep's 12th year began later in 1111, his 19th year would begin in 1104. But in that year Moses conquered Egypt, installed Ramesses XI as a puppet pharaoh, and declared the new era a Repeating of Births. Thus year 3 of Ramesses X = year 19 of Amenhotep, when Nemarenakht (Moses) regained his former title as vizier by deposing and replacing the pharaoh.

This chronological reconstruction explains an otherwise confusing papyrus from the reign of Ramesses X. Papyrus Turin 1932 + 1939 contains sequential records from year 2 of Ramesses X and an unnamed king *already* in his 19th year. The translation follows:

P. Turin Cat. 1932 + 1939

*Recto.*

<sup>1:1</sup> [Year] 2, 3 Akhet 19, under the majesty of the King of S & N Egypt, Lord of Both Lands,

1:2 [Khepermare Setep]enre, (LP)H, Son of Re, Ramesses X, Amenhirkhopshef III, (LP)H,  
 1:3 [...*lost epithets*...], living forever and eternally, like his father A[men-Re,....]Thebes?[...].  
 1:6 [..... *lost*.....]noble [...],  
 1:7 [..... of] millions of years of Pharaoh, (LP)H.  
 2:1 Year 19, 3 Akhet 7: receivi[ng grain .....] by the scribe Mery [.....]  
 2:2 from the granary of the temple of Mut:

Kenneth A. Kitchen, *Ramesseside Inscriptions*, vol. VI, (2012), §685, p. 484.

The first two lines establish the name of the king and the exact day: year 2 of Ramesses X, 3 Akhet 19 (August 12). A reference to a year 19 appears on line 1 of page 2. This is really the next column of text on the scroll, counted from the margin. A scribe started a new column of text, page 2, because the record was unrelated to the heading on page 1. But this page is dated year 19, 3 Akhet 7 without the name of the king. The papyrus is part of a collection of records from Thebes.

All explanations for a year 2 and a year 19 on the same papyrus require unusual circumstances. If year 19 was written first, then it would be unusual to have left a blank space at the margin large enough for the year 2 record to be written later. If year 2 was written first (the more probable scenario) it would be exceptionally unusual for a scribe to discover a partially blank document nearly two decades later, and start filling in the remaining space with a new record. A much simpler explanation is that page 2 was written 12 days less than a year after page 1 (3 Akhet 19 is followed by 3 Akhet 7), but during that year, high priest Amenhotep had recaptured Thebes after pharaoh Ramesses X was defeated in the north by vizier Nebmarenakht. In this simplest case hypothesis, Ramesses X controlled Thebes as of August 12, 1105, but Amenhotep had retaken Thebes by July 31 of 1104, in what would have been year 3 of Ramesses X.

Amenhotep's control would last only a few months, because Nebmarenakht, having taken the north in the spring of 1104 (when Ramesses X was succeeded by Ramesses XI) would next come south, seeking to gain control of Thebes. Nebmarenakht is attested in Thebes on 4 Akhet, day 5 (if in the same year, August 28, 1104). This is the dateline of Papyrus Turin 2034, a short note accompanying the drawing of a piece of furniture or shrine being crafted for the vizier.

P. Turin Cat. 2034: *Text A, vertical, at left of drawing*

Year 1 (of) Renaissance, corresponding to Year <1>9, 4 Akhet, 5:

Perfecting/embellishing the furnishings, this one belonging to the vizier Nebmarenakht...

Kenneth A. Kitchen, *ibid.* §865, p. 590.

The heading is year 1 of the Repeating of Births (Renaissance). But this is a workman's sketch, not a legal document, so the scribe has also recorded year 19, without naming the king. Once again this makes sense as year 19 of Amenhotep, who may have been in power in Thebes just weeks earlier, and had fled, not died, so his reign was somewhat open ended. There are additional papyrus records with double dates that can be assigned to the year 1104 BC. The records have been exceptionally confusing and are beyond the scope of this treatise, but all make sense if Ramesses X, Amenhotep and Nebmarenakht ruled Thebes in rapid succession in the spring and summer of a single year, during what was both year 3 of Ramesses X and year 19 of Amenhotep. When Nebmarenakht established control of Thebes, year 1 of the Repeating of Births was declared. Even the reason for the cluster of records at this time makes sense. Upon his return to power, Moses was collecting evidence to try to criminals who had robbed tombs when he wasn't minding Thebes.

## SUMMARY

I began this study suspecting that Noah's flood was related to the 17th century BC eruption of Thera. I had the wrong volcano but the right century for Noah. Once I discovered that the Hebrews counted time in half-years, I discovered much more than I expected to find. The Hebrew patriarchs have been identified as Kassites, and have been placed in proper historical context. Noah's flood was (indeed) an inundation of Mesopotamia due to a volcanic eruption, the Avellino eruption of Vesuvius. The date of that eruption, 1647 BC, is now derived from Hebrew records, as well as from ice-core evidence and precisely dated tree-rings. The devastation caused by the flood led to the Hyksos (Kassite) invasion of Egypt. The Hyksos were later expelled from Egypt and returned to Kassite Babylonia. When Babylonia was conquered by the Assyrian king Ashur-uballit I, Abraham fled to Canaan. Abraham, Isaac and Jacob lived in the Egyptian territory of Canaan during the 19th dynasty. The promise to Abraham was the founding of a Hebrew kingdom, but it was a vassal kingdom, a province of Egypt.

Joseph has been identified as chancellor Bay of the late 19th dynasty, and Moses has been identified as vizier Nebmarenakht of the late 20th dynasty. Both became Hebrew rulers of Egypt by holding top administrative positions under powerless pharaohs; Joseph as chancellor under Siptah, and Moses as vizier under Ramesses XI. Moses was expelled by high priest Amenhotep in 1092 BC, but within a century, the Israelites rose to power in Canaan under king David.

## CONCLUSION

The Hebrew chronology from Noah to Moses is preserved principally in the extensive record of the Book of Jubilees, with supplementary details from Bar Hebraeus' Chronography and the Venice Book of Jasher. The Bible's most important contribution is the interval from Jacob's death to Solomon's temple, which is recorded in 1st Kings 6:1. The ultimate test of a chronology is synchronization to external history. This solution to the Hebrew chronology is firmly anchored at eight independent points to recognizable events in external history. No previous chronology of the Hebrew patriarchs has matched at multiple points to known history. Thus I must reiterate, finding fault in one synchronization does not make the chronology fall like a house of cards. The death of Jacob is anchored from 440 years above and 240 years below. The death of Joseph is recorded as 27 years later in three different ways. The life of Moses has to be a few decades later, and is anchored to a smallpox epidemic at his birth, a war in Phoenicia when he fled to Midian, a pharaoh with leprosy when he fled to Midian, and a volcanic eruption as he departed Egypt. Where is Moses to fit better in history?

When the Hebrew patriarchs lived is no longer in doubt. What remains open to interpretation is the historical role of the patriarchs themselves. I am hopeful that the chronology presented here will pave the way toward greater understanding of both who the Hebrew patriarchs were, and how the Hebrew Bible came into existence.

## Notes and References

Abbreviations used below:

- ANET James B. Pritchard, ed., *Ancient Near Eastern Texts Relation to the Old Testament*, (1955).  
KRI VI Kenneth A. Kitchen, *Ramesside Inscriptions: Translated and Annotated*, Vol. VI, (2012).

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<sup>1</sup> Aidan Dodson, *Monarchs of the Nile*, (2000) p. 139.

<sup>2</sup> William Austin, "The half-year time unit: a cultural tradition identifying the Hebrews as Kassites," <https://www.academia.edu/19795573>

<sup>3</sup> Exact dates related to the founding of Carthage and Tyre can be anchored by astronomy to a pair of summertime solar eclipses reported by Thucydides to have occurred during the 1st and 8th year of the Peloponnesian war. The second eclipse was specifically early in the summer. (*History of the Peloponnesian War*, 2.4.30, 4.8.11). This record matches a pair of eclipses on Aug. 3, 431 BC and Mar. 21, 424 BC. Assigning the first year of the war to 431 BC, the chronology of Erotosthenes, as quoted by Clement of Alexandria (*Stromata* 1.21) can then be filled in as follows:

Fall of Troy	1183	
First Olympiad	776	407 years after the fall of Troy
[Founding of Rome	752	24 years after the first Olympiad (some say) ]
Peloponnesian war	431	345 years after the first Olympiad
Death of Alexander	323	108 years after the Peloponnesian war began

The founding of Rome has been added to the above list for sake of completeness, though Clement gave this date separately from his quotation of Erotosthenes and cited no specific source. Dionysius of Halicarnassus (*Roman Antiquities*, 1:74-75) gives several alternatives for the founding of Rome, but defends the first year of the seventh Olympiad (24 years after the first Olympiad) as the most reliable.

One date for the founding of Carthage is given by Pompeius Trogus (*Philippic History*, 18:6), who states of Carthage, "This city was founded seventy-two years before Rome," thus in  $752 + 72 = 824$  BC (ignoring uncertainties regarding the turn of the year). Alternately, Dionysius of Halicarassus (*Roman Antiquities*, 1:74), cites Timaeus of Sicily, who placed the founding of Carthage "in the thirty-eighth year before the first Olympiad." This corresponds to  $776 + 38 = 814$  BC.

The founding of Tyre is fixed to the fall of Troy by Pompeius Trogus (*Philippic History*, 18:3), who states that Tyre was built by refugees from Sidon in "the year before the fall of Troy." Erotosthenes' date for the fall of Troy, 1183 BC, places the founding of Tyre in 1184 BC. This date is contradicted by the chronology of the Parian Marble (entries 24 and 109), which place the fall of Troy 885 years before the death of Alexander, thus in  $323 + 885 = 1208$  BC. In that case the founding of Tyre was in 1209 BC.

<sup>4</sup> Eric H. Cline, *Biblical Archaeology: A Very Short Introduction*, (2009), p. 83.

<sup>5</sup> Edwin R. Theile, *The Mysterious Numbers of the Hebrew Kings*, (1983), p. 80.

<sup>6</sup> Rodger C. Young and Andrew E. Steinmann, "Correlation of Select Classical Sources Related to the Trojan War with Assyrian and Biblical Chronologies" *Journal for the Evangelical Study of the Old Testament*, 1.2 (2012), pp. 226-7.

<sup>7</sup> Wilfred Watson and Nicolas Wyatt, *Handbook of Ugaritic Studies*, (1999). p. 712.

<sup>8</sup> Lawrence E. Stager in, *The Oxford History of the Bible* (2001), p. 91.

<sup>9</sup> Peter Kuniholm et. al., "Anatolian tree rings and the absolute chronology of the eastern Mediterranean, 2220-718 BC", *Nature*, 381, (1996), p. 781.

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- <sup>10</sup> Charlotte L. Pearson, et. al. "Dendrochronological analysis of a tree-ring growth anomaly associated with the Late Bronze Age eruption of Thera," *Journal of Archaeological Science*, 36, (2009), p. 1207.
- <sup>11</sup> A continuous Irish oak chronology for the past 7,000 years was completed in 1984. A continuous German oak chronology for the past 8,000 years was completed in 1988. A summary of progress in tree ring science through 1993 is given by Bernd Becker, *Radiocarbon*, 35:1, (1993) p. 201-213.
- <sup>12</sup> A strong volcanic eruption in the GRIP core at depth 736.47 m, corresponding to an eruption commencing in 1642 BC  $\pm$  5 years is also found in the DYE-3 and NGRIP cores. The signal was tentatively identified as Thera by B. M. Vinther et. al., "A Synchronized dating of three Greenland ice cores throughout the Holocene," *Journal of Geophysical Research*, 111, (2006), D13102.
- <sup>13</sup> J. S. Vogel, W. Cornell, D. E. Nelson and J. R. Southon, "Vesuvius/Avellino, one possible source of seventh century BC climatic disturbances," *Nature*, 344, (1990), p. 534.
- <sup>14</sup> C. U. Hammer, et. al., "The Minoan eruption of Santorini in Greece dated to 1645 BC?", *Nature*, 328, (1987), pp. 517-19.
- <sup>15</sup> C. U. Hammer, et. al., "Thera eruption date 1645 BC confirmed by new ice core data?" In: M. Bietak, editor. *The Synchronizations of Civilizations in the Eastern Mediterranean in the Second Millenium BC II*. Proceedings of the SCIEEM 2000 – Euroconference, Haindorf, 2001, Vienna, pp. 87-94.
- <sup>16</sup> Walter L. Friedrich, et. al., "Santorini Eruption Radiocarbon Dated to 1627-1600 BC," *Science*, 312, (2006), p. 548.
- <sup>17</sup> V. C. LaMarche and K. K. Hirschboeck, "Frost rings in trees as records of major volcanic eruptions," *Nature*, 307, (1984), pp. 121-6.
- <sup>18</sup> Charlotte L. Pearson et. al., "Dendrochemical analysis of a tree-ring growth anomaly associated with the Late Bronze Age eruption of Thera," *Journal of Archaeological Science*, vol. 36. (2009), p. 1206.
- <sup>19</sup> M. E. J. Richardson, *Hammurabi's Laws: Text, Translation and Glossary*, (2004), p. 269.
- <sup>20</sup> W. H. Ward, "Light on scriptural texts from recent discoveries", *The Homiletic Review*, 28, (1894), p. 126
- <sup>21</sup> H. V. Hilprecht, The Babylonian expedition of the University of Pennsylvania, 29:1 (1896), p. 32.
- <sup>22</sup> The reign of Horemheb as given in the chronology of Ian Shaw, ed., *The Oxford History of Egypt*, (2003), p. 485.
- <sup>23</sup> H. W. F. Saggs, *Babylonians* (2009), p. 122
- <sup>24</sup> Chronicle 21 in A. K. Grayson, *Assyrian and Babylonian Chronicles*, (2000) p. 157.
- <sup>25</sup> Chronicle 22 in A. K. Grayson, *Assyrian and Babylonian Chronicles*, (2000) p. 170.
- <sup>26</sup> Reigns of Eriba-Adad I (27 regnal years) and Ashur-uballit I (36 regnal years) via the Assyrian low chronology of Amélie Kuhrt, *The Ancient Near East c.3000–330 BC*, vol. 1, (1998), p. 351. The high chronology, 12 years higher, does not synchronize to the Hebrew chronology.
- <sup>27</sup> Ian Shaw, ed., *The Oxford History of Ancient Egypt*, (2003), p. 223.
- <sup>28</sup> Aidan Dodson, *Monarchs of the Nile*, (2000), pp. 105-106.
- <sup>29</sup> Gösta Werner Ahlström, *The History of Ancient Palestine*, (1993), pp. 757-60.
- <sup>30</sup> [http://rbedrosian.com/Downloads/Eusebius\\_Chronicle](http://rbedrosian.com/Downloads/Eusebius_Chronicle)
- <sup>31</sup> Henri Frankfort, *Kingship and the Gods: A Study of Ancient Near Eastern Religion as the Integration of Society and Nature*, (1978), p. 230.
- <sup>32</sup> Evidence concerning the reign of Sety I is summarized in E. Hornung, R. Krauss and D. A. Warburton, *Ancient Egyptian Chronology*, (2006), pp. 210-11. Briefly, Sety I's reign ends in 1279 BC, since the first year of Ramesses II's reign is fixed by a lunar date.

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Sety I reigned at least 11 years, with some evidence suggesting 15 years. If 15 years is correct, his reign was 1294-1279 BC. The accession day of Sety I is not explicitly recorded, but has been narrowed to the interval from II Shemu 30 to I Akhet 2 (mid April to mid July). Within that interval, a festival in celebration of Sety I on III Shemu 24 is considered the most likely day of his accession (May 31 if 1290-93, June 1 if 1294 BC).

<sup>33</sup> “A Campaign of Seti I in Northern Palestine,” *ANET*, p. 253.

<sup>34</sup> “Campaigns of Seti I in Asia,” *ANET*, p. 254 (a).

<sup>35</sup> *Ibid.*, p. 254 (c).

<sup>36</sup> Zawi Hawass, “King Tut’s Family Secrets,” *National Geographic*, (Sept. 2010); Zawi Hawass, et. al. “Revising the harem conspiracy,” *British Medical Journal*, 345, (Dec. 17 2012), e8268.

<sup>37</sup> Ian Shaw, ed., *The Oxford History of Egypt*, (2003), p. 285.

<sup>38</sup> Peter James Brand, *The Monuments of Seti I: Epigraphic, Historical, and Art Historical Analysis*, (2000), p. 350-51.

<sup>39</sup> John A. Wilson, *The Culture of Ancient Egypt*, (1951), p. 240.

<sup>40</sup> Peter James Brand, *The Monuments of Seti I: Epigraphic, Historical, and Art Historical Analysis*, (2000), p. 380.

<sup>41</sup> Aidan Dodson, *Poisoned Legacy: The fall of the Nineteenth Egyptian Dynasty*, (2010), pp. 124-6.

<sup>42</sup> The reign of Ramesses III as given in the chronology of Ian Shaw, ed., *The Oxford History of Egypt*, (2003), p. 485.

<sup>43</sup> James Henry Breasted, *A History of Egypt: From the Earliest Times to the Persian Conquest*, (1909), p. 477.

<sup>44</sup> Eliezer D. Oren, *The Northern Cemetery of Beth Shan*, (1973), pp. 134, 138-9. Note that Oren rejects identification of the coffins with the Philistines, in preference to the Denyen, on the grounds that the site lacks Philistine ware. He also rejects a possible explanation – perhaps uniquely Philistine pottery had not yet emerged. Nevertheless, that explanation would perfectly fit the transition from the 19th to the 20th dynasty. Severance of ties to Egypt would force cultural change upon the Philistines, resulting in the emergence of uniquely Philistine ware only in the 20th dynasty.

<sup>45</sup> Two stele of Sety I, and one of Ramesses II, all from Beth-Shan, are translated in *ANET*, pp. 254-55.

<sup>46</sup> Ann E. Killebrew, *The Philistines and Other “Sea Peoples” in Text and Archaeology*, (2013), p. 1.

<sup>47</sup> Medinet Habu building inscriptions: Syrian war, translation by James Henry Breasted, *Ancient Records of Egypt*, vol. 4, (1906), p. 77.

<sup>48</sup> Papyrus Harris: historical section: Edomite war, translation by J. H. Breasted, *ibid.*, p. 201.

<sup>49</sup> “The Asiatic Campaigns of Thut-mose III,” *ANET*, p. 239.

<sup>50</sup> Tiglath-pileser’s campaign in Phoenicia is recorded on the foundation document of the Anu-Adad temple in Ashur. A translation is published in *ANET*, p. 274-75. “I received tribute from Byblos, Sidon and Arvad... And (afterwards) on my return march (towards Ashur) I subjected the entire country of Great-Hatti...” This record does not give the year, but the campaign through Hatti is also recorded on the more extensive Inscription of Tiglath-pileser I, published in Sir H. Rawlinson, et. al. *Babylonian and Assyrian Literature*, (1901), pp 212-219. That inscription sequentially lists the campaigns of his accession year (1115) and first five regnal years. In his fourth year (1111), he campaigned “as far as the city of Qarqamis belonging to the country of Khatte.” This was the same campaign that passed through Phoenicia.

<sup>51</sup> See, for example, the database of Holocene volcanoes at the Smithsonian Institution website: [http://volcano.si.edu/list\\_volcano\\_holocene.cfm](http://volcano.si.edu/list_volcano_holocene.cfm)

<sup>52</sup> The GICC05 calibration procedure is described in B.M. Vinther et. al., “A

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Synchronized dating of three Greenland ice cores throughout the Holocene”, *Journal of Geophysical Research*, 111, (2006), D13102. The resultant year count vs. depth is reported at 20-year intervals in the data set “North GRIP – Greenland Ice Core Chronology 2005 (GICC05) Holocene section, 20-year resolution”:

[www.ncdc.noaa.gov/paleo/metadata/noaa-icecore-2494.html](http://www.ncdc.noaa.gov/paleo/metadata/noaa-icecore-2494.html)

The GRIP volcanic signal at 644.39 m falls midway between reference points for summer of 1081 BC = 3080 b2k (years before 2000), and summer of 1101 BC = 3100 b2k. If snowfall was equal every year, the date would be 1091 BC, but inspection of the rising (winter) and falling (summer) acidity signal places the eruption in the spring of 1092 BC.

<sup>53</sup> Aidan Dodson, *Monarchs of the Nile*, (2000) p. 209.

<sup>54</sup> Papyrus Turin 1898+1937+2094/244, collectively known as the ‘Turin Necropolis Journal,’ translated in *KRI VI*, §687-99, pp. 485-93.

<sup>55</sup> Evidence concerning the reign of Ramesses IX is summarized in E. Hornung, R. Krauss and D. A. Warburton, *Ancient Egyptian Chronology*, (2006), p. 216. Briefly, Ramesses IX’s accession occurred on or after I Akhet 18, probably on I Akhet 21 (June 20, in 1125 BC). He died in his year 19, near the end of I Peret (4th week of October).

<sup>56</sup> “Act of Adoption, Years 1 & 18” [of Ramesses XI], translated in *KRI VI*, §735-38, pp. 524-46.

<sup>57</sup> Sunset in the Nile delta was at approximately 16:00 UT on April 7, 1104 BC. On that evening, an astronomical new moon occurred at 16:34 UT, as calculated by Fred Espenak, *Six Millennium Catalog of Phases of the Moon*:

<http://astropixels.com/ephemeris/phasecat/phasecat.html>

<sup>58</sup> According to the chronicle of the Parian Marble, Troy was taken on the 7th day before the end of the month Thargalion (May/June), 885 years before the death of Alexander of Macedonia (a translation is online at: [www.ashmolean.org/ash/faqs/q004](http://www.ashmolean.org/ash/faqs/q004)). Thargalion is the 11th month of the Greek year, which began with the new moon after the summer solstice. Alexander also died near the end of the Greek year, on June 10/11 of 323 BC. Therefore Alexander died in the Greek year ending in 323 BC, and the fall of Troy was late in the Greek year ending in 1108 BC.

<sup>59</sup> A full translation of the Abbott Papyrus is found in T. Eric Peet, *The Great Tomb Robberies of the Twentieth Egyptian Dynasty*, (1930), pp. 28-45. A discussion of the political context of the papyrus is presented by Pascal Vernus, “The Robberies in the Reign of Ramesses IX” in *Affairs and Scandals in Ancient Egypt*, (2003), pp. 5-18.

<sup>60</sup> Charles F. Nims, “An Oracle Dated in The Repeating of Births,” *Journal of Near Eastern Studies*, 7, (1948), p. 159.

<sup>61</sup> Papyrus Mayer A, line 1.6, as translated *KRI VI*, §803, p. 557.